2008 Air Monitoring Network Plan

Submitted to the U.S. EPA Region 9
July 1, 2008

Prepared by:
State of Hawaii
Department of Health

Environmental Management Division
Clean Air Branch
and
State Laboratories Division
Air Surveillance and Analysis Section

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Introduction

This annual review evaluates the state's existing ambient air monitoring network to determine adequacy in meeting monitoring objectives, to optimize the network by closing, moving or adding stations, and to ensure that air quality issues important to the state are being addressed. This plan is being submitted to the United States Environmental Protection Agency (EPA) according to 40 CFR Part 58, Subpart B.

Notification of the plan availability for public inspection was provided through public notices published on May 28 in the daily newspapers of all counties. The plan was available for review at all county District Health offices as well as on the Clean Air Branch website (http://hawaii.gov/health/environmental/air/cab/index.html) for 30 days from May 28, 2008 to June 26, 2008. Documentation of public notification and comments received is provided in Attachment I.

Section 1
Network Design

Overview of Network

The 2007-2008 ambient air monitoring network consists of 14 SLAMS and SPM stations. Two additions to the network were the Pahala and Mountain View stations on the Big Island of Hawaii. These SPM stations were added to monitor volcanic emissions from the continuing eruption of the Kilauea volcano.

Table 1 provides the street address, where available, as well as the latitude and longitude of each station in the network. **Table 2** shows the type, pollutants monitored, monitoring objective and spatial scale of each station and **Table 3** gives the sampling method and operating schedule of each pollutant monitored. **Figure 1** illustrates the locations of the current stations as well as a table of site names and corresponding AQS codes.

Tables 4 to 6 show compliance with the minimum monitoring requirements for PM_{10}, $PM_{2.5}$, and O_3, respectively.

Table 7 summarizes the type and number of stations in the network for each pollutant.

Table 1. Site Location

ID	AQS Code	Street Address	Latitude	Longitude
OAHU				
DH1	150031001	1250 Punchbowl St., Honolulu, Oahu	21°18'27.27"N	157°51'19.52"W
KA5	150030010	2052 Lauwiliwili St., Kapolei, Oahu	21°19'25.48"N	158°05'19"W
MG4	150031006	92-670 Farrington Hwy., Kapolei, Oahu	21°20'39.36"N	158°06'46.68"W
PC3	150032004	860 4th St., Pearl City, Oahu	21°23'34.20"N	157°58'08.85"W
SI2	150031004	Anuenue Fisheries, Honolulu, Oahu	21°18.13.82"N	157°52'16.22"W
WB6	150030011	Ko'Olina Golf Course, Kapolei, Oahu	21°19'57.87"N	158°06'50.87"W
MAUI				
KH4	150090006	Hale Piilani Park, Kihei	20°46'51.59"N	156°26'46.94"W
HAWAII			19°43'03.32"N	155°06'37.91"W
HL11	150011006	1099 Waianuenue Ave., Hilo		
KN12	150011012	81-1043 Konawaena School Rd., Kona	19°30'35.2"N	155°54'48.3"W
LV7	None	TMK 1-4-1-44, Puna	19°29'11.06"N	154°54'11.23"W
PE10	150012010	13-763 Leilani Ave., Puna	19°27'50.36"N	154°53'55.34"W
PH15	None	TMK 1-3-46-75, Puna	19°28'18.6"N	154°53'20.5"W
MV17	150012017	17-860 Volcano Rd., Mt. View	19°34'11.58"N	155°04'39.84"W
PA16	150012016	96-3150 Pikake St., Pahala	19°12'14.04"N	155°28'48.66"W

Table 2. Station Type, Pollutants Monitored, Objective and Spatial Scale

ID	Type	Criteria Pollutants Monitored	Monitoring Objective	Spatial Scale
DH1	SLAMS	CO, SO_2, PM_{10}, $PM_{2.5}$	Population exposure	Neighborhood
KA5	SLAMS	CO, SO_2, NO_2, PM_{10}, $PM_{2.5}$	Source impact	Neighborhood
MG4	SLAMS	SO_2	Source impact	Neighborhood
PC3	SLAMS SPM	PM_{10}, $PM_{2.5}$ $PM_{2.5}$ speciation, Air Toxics	Population exposure Population exposure	Neighborhood Neighborhood
SI2	SLAMS SLAMS	O_3 $PM_{2.5}$	Maximum concentration Transport	Urban Urban
WB6	SLAMS	SO_2, NO_2, PM_{10}	Source impact	Neighborhood
KH4	SLAMS SPM	$PM_{2.5}$ PM_{10}	Source impact Source impact (Ag burning)	Neighborhood Neighborhood
HL11	SPM	SO_2, $PM_{2.5}$	Population exposure (Volcano)	Neighborhood
KN12	SPM	SO_2, $PM_{2.5}$	Source impact (Volcano)	Neighborhood
PE10	SPM	SO_2	Source impact (Volcano)	Neighborhood
MV17	SPM	SO_2, $PM_{2.5}$	Source impact (Volcano)	Neighborhood
PA16	SPM	SO_2, $PM_{2.5}$	Source impact (Volcano)	Neighborhood
ID	**Type**	**Non-Criteria Pollutants Monitored**	**Monitoring Objective**	**Spatial Scale**
LV7	SPM	*H_2S	Source impact (geothermal)	Neighborhood
PE10	SPM	*H_2S	Source impact (geothermal)	Neighborhood
PH15	SPM	*H_2S	Source impact (geothermal)	Neighborhood

* H_2S is not a criteria pollutant, however the state of Hawaii has a 1-hour ambient air standard of 25 ppb

Table 3. Pollutant Sampling Method and Operating Schedule

ID	PM_{10} Continuous Sampler	PM_{10} Manual Sampler	$PM_{2.5}$ Manual Sampler	$PM_{2.5}$ Continuous Sampler	CO Continuous Gas Filter Correlation	NO_2 Continuous Chemi-luminescence	SO_2 Continuous Pulsed Fluorescence	O_3 Continuous UV Photometric	H_2S Continuous Pulsed Fluorescence
DH	TEOM[1]		1 in 3		●		●		
KA	TEOM & BAM		1 in 3	BAM[2]	●	●	●		
MG							●		
PC	BAM		1 in 3						
SI			1 in 6	E-BAM[3]				●	
WB	BAM	1 in 6[4]				●	●		
KH	TEOM		1 in 6[4]	BAM					
HL				BAM			●		
KN				BAM			●		
LV									●
PE							●		●
PH									●
MV				BAM			●		
PA				BAM			●		

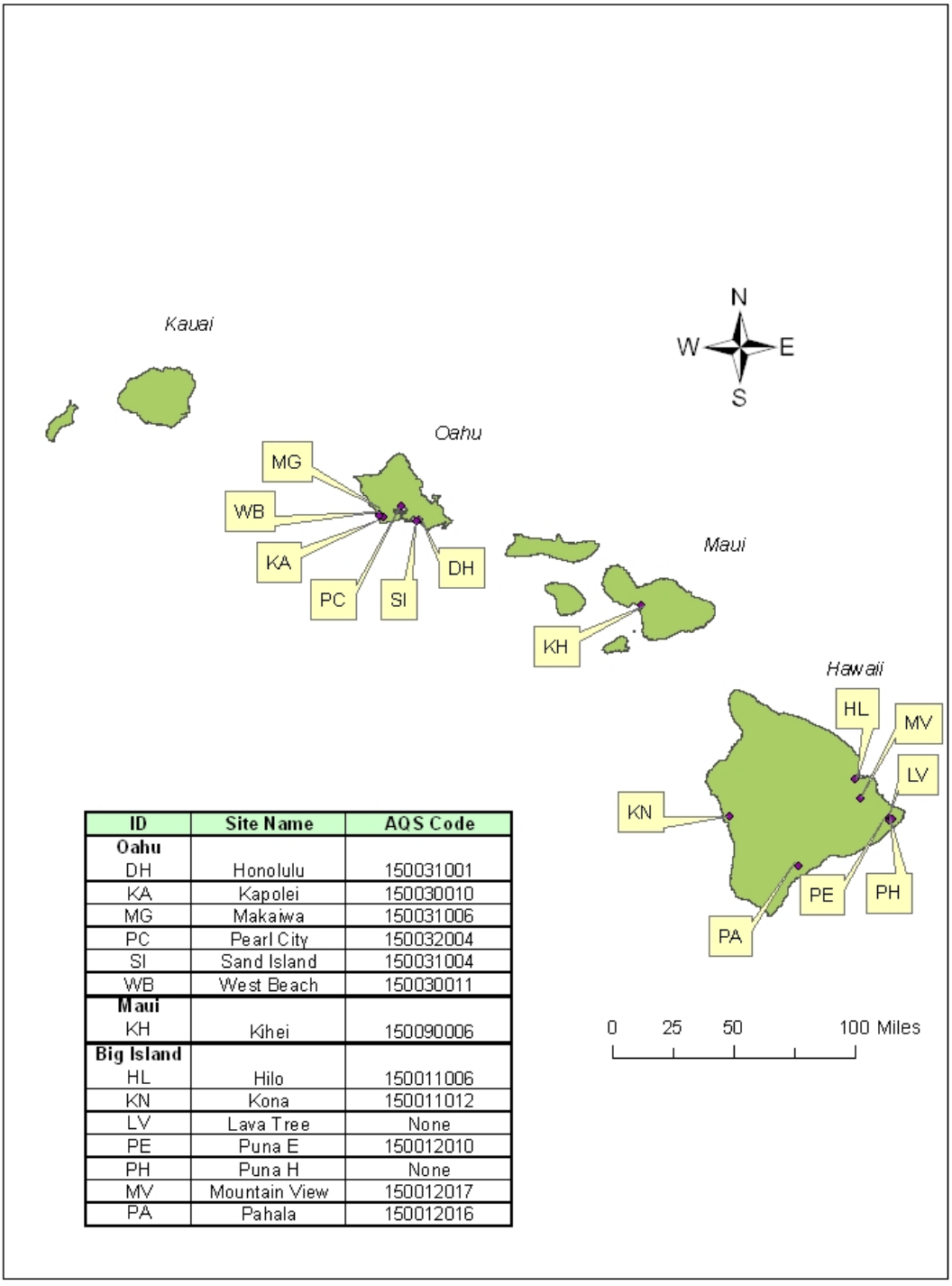
[1] Tapered Element Oscillating Microbalance®; federal equivalent method

[2] Beta-Attenuation Mass Monitor; federal equivalent method

[3] E-BAM portable beta-gauge: data cannot be compared to the NAAQS, not an equivalent method

[4] Manual sampler discontinued March 2008

Figure 1
2007-2008 State of Hawaii Ambient Air Monitoring Network



ID	Site Name	AQS Code
Oahu		
DH	Honolulu	150031001
KA	Kapolei	150030010
MG	Makaiwa	150031006
PC	Pearl City	150032004
SI	Sand Island	150031004
WB	West Beach	150030011
Maui		
KH	Kihei	150090006
Big Island		
HL	Hilo	150011006
KN	Kona	150011012
LV	Lava Tree	None
PE	Puna E	150012010
PH	Puna H	None
MV	Mountain View	150012017
PA	Pahala	150012016

The state's ambient air monitoring network meets, and for some pollutants, exceeds the minimum monitoring requirements for all criteria pollutants pursuant to 40 CFR 58 Appendix D.

According to the U.S. Census Bureau, the state of Hawaii has one Metropolitan Statistical Area (MSA), located in the City and County of Honolulu with a census year 2000 population of 876,156.

Table 4. PM_{10} Minimum Monitoring Requirements for the MSA

MSA Population Category (40 CFR 58 Appendix D Table D-4)	High Concentration ≥20% of NAAQS (≥180 µg/m^3)	Medium Concentration >80% of NAAQS (>120 µg/m^3)	Low Concentration <80% of NAAQS (<120 µg/m^3)
>1,000,000	6-10	4-8	2-4
500,000-1,000,000	4-8	2-4	**1-2**
250,000-500,000	3-4	1-2	0-1
100,000-250,000	1-2	0-1	0

MSA	2000 Census Population	Maximum Design Value 2005 – 2007	Minimum No. of Monitors Required	Number of Active Monitors in the MSA	Number of Monitors Needed
Honolulu	876,156	113 µg/m^3	1-2	4	0

Table 5. $PM_{2.5}$ Minimum Monitoring Requirements for the MSA

MSA Population Category (40 CFR 58 Appendix D Table D-5)	Most recent 3-year Design Value ≥85% of any $PM_{2.5}$ NAAQS (≥29.8 µg/m^3 for 24-hr standard; ≥12.8 µg/m^3 for annual standard)	Most recent 3-year Design Value <85% of any $PM_{2.5}$ NAAQS (<29.8 µg/m^3 for 24-hour standard; <12.8 µg/m^3 for annual standard)
>1,000,000	3	2
500,000-1,000,000	2	**1**
250,000-500,000	1	0

MSA	2000 Census Population	Maximum Annual Design Value 2005 – 2007	Maximum Daily Design Value 2005-2007	Minimum No. of Monitors Required	Number of Active Monitors in the MSA (2007)	Number of Monitors Needed
Honolulu	876,156	4.9 µg/m^3	10.1 µg/m^3	1	4	0

Table 6. O_3 Minimum Monitoring Requirements for the MSA

MSA Population Category (40 CFR 58 Appendix D Table D-2)	Most recent 3-year design value ≥85% of any O_3 NAAQS (≥0.064 ppm, new 8-hr standard)	Most recent 3-year design value <85% of any O_3 NAAQS (<0.064 ppm, new 8-hr standard)
>10 million	4	2
4-10 million	3	1
350,000-<4 million	2	**1**
50,000-<350,000	1	0

MSA	2000 Census Population	Maximum Design Value 2005 – 2007	Minimum No. of Monitors Required	Number of Active Monitors in the MSA	Number of Monitors Needed
Honolulu	876,156	0.042 ppm	1	1	0

There are no minimum monitoring requirements for CO, SO_2, NO_2, and Pb.

Table 7. Summary of Number of Stations by Pollutant or Program

Pollutant or Program	No. of SLAMS Stations	No. of SPM Stations	Total No. in MSA	Total No. in State
CO	2	-	2	2
NO_2	2	-	2	2
SO_2	4	5	4	9
O_3	1	-	1	1
PM_{10}	4	1	4	5
$PM_{2.5}$	5	4	4	9
Pb	-	1[1]	1	1
Air Toxics	-	1	1	1
$PM_{2.5}$ Speciation	-	1	1	1
H_2S	-	3[2]	0	3

[1] Pb is no longer required by EPA to be monitored in the state of Hawaii, however, it is being monitored as part of the $PM_{2.5}$ speciation program

[2] H_2S is not a federal criteria pollutant and is being monitored because of geothermal energy production

Section 2
Network Review and Modifications

Recent and Proposed Modifications to the Network

Station Additions and Closures

1. Monitoring of volcanic emissions on the island of Hawaii continues to be one of the priorities for the state.

   In 2007, the state established two additional SPM stations on the island of Hawaii. The pollutants monitored at these stations are SO_2 and $PM_{2.5}$. The stations are located in Mountain View and Pahala, communities that are closer to the volcano and may experience a greater impact from volcanic emissions.

   In 2008-2009, the state plans to install another two SPM stations on the island of Hawaii to monitor for SO_2 and $PM_{2.5}$. The locations have not been finalized and multi-agency discussions are ongoing to choose the communities where monitoring for volcanic emissions is most needed.

2. Monitoring of cruise ship emissions on the island of Kauai

   Pending resource allocation, the state hopes to establish one SPM station on the island of Kauai to monitor SO_2 and $PM_{2.5}$ from cruise ship emissions. Cruise ships dock in Nawiliwili Harbor in Lihue and prevailing winds carry emissions on-shore into nearby communities. Although plans are to initially monitor for these two pollutants, other pollutants may be added if the station is established.

3. The Lava Tree station (no AQS ID), which monitored for H_2S, was closed on 4/30/08. In reviewing the state's monitoring objectives, it was determined that resources needed to be re-directed towards additional monitoring of the volcano. The lease for this station expires on June 30, 2008 and the equipment was used to replace broken or malfunctioning equipment in other stations. There are still two downwind stations monitoring for emissions from the geothermal energy facility.

Equipment changes

1. Continuous $PM_{2.5}$ (FEM)

   With the MetOne BAM-1020 continuous $PM_{2.5}$ instrument (EQPM-0308-170) receiving federal equivalency status on March 13, 2008, the state plans to convert selected manual samplers to continuous. The state will ensure compliance with all co-location requirements in 40 CFR Part 58.

   As of this date the following stations have the BAM-1020 continuous $PM_{2.5}$ instrument:

   - Kapolei (KA5 150030010) as of 4/18/08; manual $PM_{2.5}$ FRM to operate on a 1 in 3 day schedule until January 1, 2009 for data comparison. The FRM data will be submitted to AQS as the data of record for the site at least until December 31, 2008. The data from the FEM will be

submitted as SPM. If the data comparison is satisfactory, the FRM will be discontinued after January 1, 2009.

- Kihei (KH4 150090006) as of 3/26/08; manual $PM_{2.5}$ FRM discontinued
- Hilo (HL11 150011006) as of 5/1/08; no FRM
- Kona (KN12 150011012) as of 3/13/08; no FRM
- Pahala (PA16 150012016) as of 4/11/08; no FRM
- Mountain View (MV17 150012017) as of 4/11/08; no FRM

The following station is designated to be converted in 2008-2009:

- Sand Island (SI2 150031004); manual FRM to be co-located and operated on a 1 in 6 day schedule

2. Continuous PM_{10}

The state is planning to convert the TEOM PM_{10} continuous instruments to BAM PM_{10} continuous instruments (EQPM-0798-122) as the TEOMS breakdown.

As of this date the following stations have the BAM-1020 continuous PM_{10} instrument:

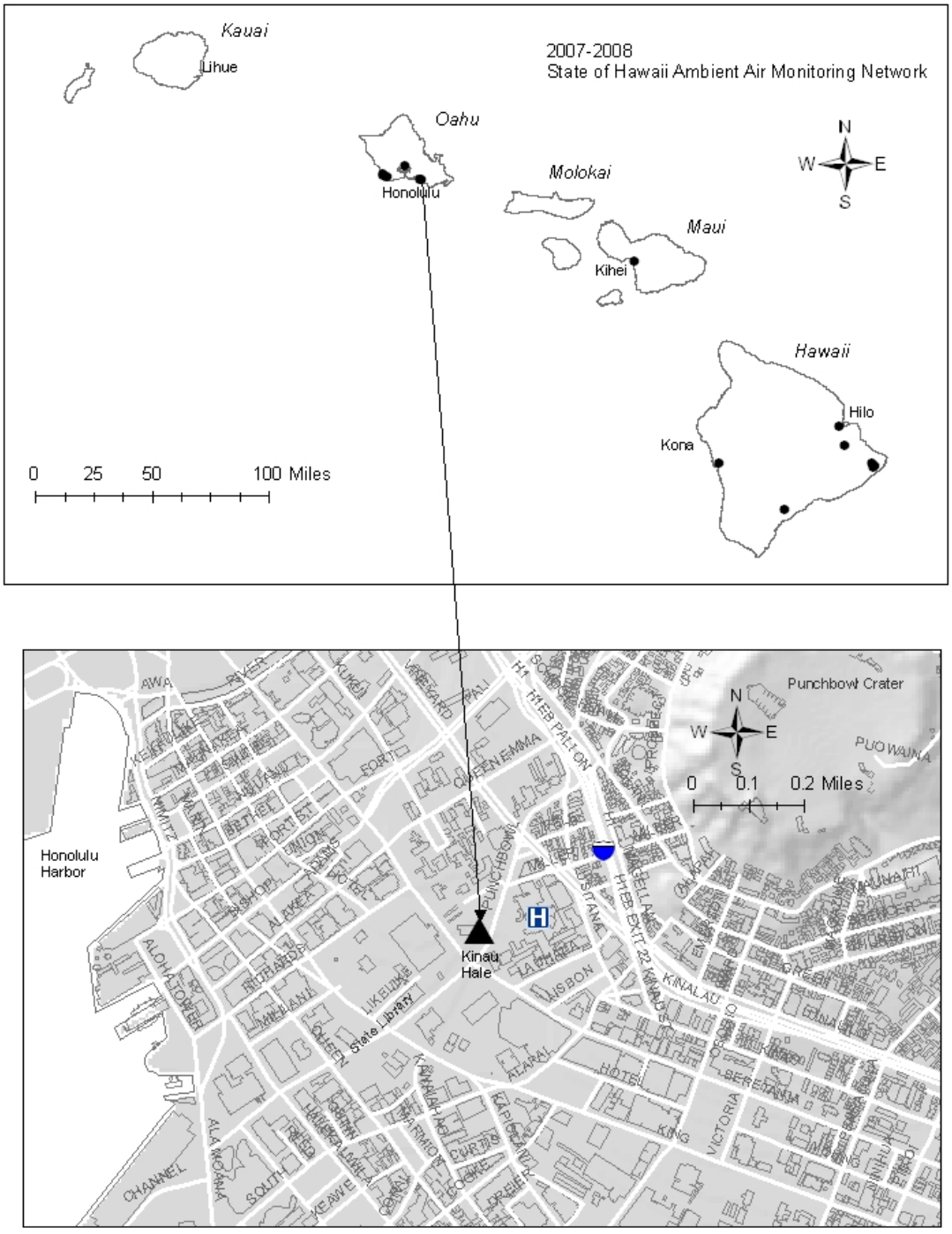
- Kapolei (KA5 150030010) as of 4/18/08; TEOM running concurrently until January 1, 2009, for data comparison;
- West Beach (WB6 150030011) as of 3/17/08; PM_{10} manual FRM discontinued

When the TEOMS at the following stations breakdown, they will be replaced with BAMS PM_{10}:

- Honolulu (DH1 150031001)
- Kihei (KH4 15009006)

Figure 2

DH1 150031001
Honolulu Station



State of Hawaii Ambient Air Monitoring Network

SITE REPORT:	DH1 Honolulu

Date of Report:	5/21/2008

SITE INFORMATION

City: Honolulu	**CDP:** Honolulu	**Census Tract:** 41	**AIRS ID:** 150031001
Address: 1250 Punchbowl St., Honolulu (Oahu)			
UTM (NAD 83): 4N North 236619.4 m East 618715 m		**Latitude (NAD 83):** 21° 18' 27.3" N **Longitude:** 157° 51' 19.5" W	**Elevation (MSL):** 20 m
Pollutants Monitored: CO, SO_2, PM_{10}, $PM_{2.5}$ (SLAMS)			
Name(s) of nearest intersecting street(s): Punchbowl St. (east); Beretania St. (south); Vineyard Blvd. (north)			
Brief description of site location and landmarks: Located in the downtown Honolulu business and government district, the station is located on the roof of the Department of Health building (Kinau Hale). Queen's Medical Center is to the east, Punchbowl crater to the north, State Capitol building to the south as well as other state and county government buildings.			
Agency preparing this report: Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
Agency responsible for data collection and site maintenance: Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

GENERAL SITE DESCRIPTION

Mobile Source				
Type	Punchbowl St.	Beretania St.	Vineyard Blvd.	H-1 Freeway
Freeway				X
Major Street or Highway	X	X	X	
Traffic Activity				
Distance of roadway from air intake (m)	30	122	610	914
Direction of roadway from air inlet	E	S	N	N/NE
Composition of roadway	asphalt	asphalt	asphalt	asphalt
Number of traffic lanes	5	6	6	6
Average daily traffic (estimate)	32,173 (2001)[1]	No data	35,903 (2001)[1]	No data
Average vehicle speed (estimate, mph)	20	25	25	45
Traffic one way or two	2	1	2	2
Number of parking lanes	0	0	0	0
Roadway paved?	Y	Y	Y	Y

Obstructions			
Type	**Size (m)**	**Direction from Site**	**Distance from Site (m)**
Penthouse	5W x 2.4D x 2.4H	W	12
Tree	16W x 12H	E	7

Meteorology and Climatology: Source of met data is site WS, WD

[1] Source: State of Hawaii, Department of Transportation

DATA QUALITY

Audits	Result
Last PEP Audit: 7/13/07	Pass
Last NPAP Audit:	-
Last Independent (DOH) Audit: 12/17/07, 12/27/07	Pass
Last Flow Audit: PM_{10}: 3/31/08; $PM_{2.5}$ 3/24/08	PM_{10}: Pass $PM_{2.5}$: Pass
Precision/Accuracy reports submitted to AQS:	Yes
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2008 deadline

SITE AND MONITOR INFORMATION (DH1 continued)

Probe Siting		
	Gases (CO, SO_2)	**PM**
Location	Probe extends off the east side of building, nearest Punchbowl Street	Top of building
If on building: height (m) width (m) depth (m)	10	 12 61 15
Horizontal distance from supporting structure (m)	1.5	N/A
Vertical distance above supporting structure (m)	N/A	1.8
Height of probe above ground (m)	11	13.4
Distance from tree(s)	7	N/A
Horizontal distance from edge of nearest traffic lane (m)	9	N/A
Horizontal distance from nearest parking lot (m)	24	24
Horizontal distance from walls, parapets, penthouses (m)	1.5 (wall)	11 (penthouse)
Distance from obstacles, such as buildings (m)	1.5 (supporting building wall)	300
Distance from furnace or incineration flues (m)	N/A	N/A
Unrestricted air flow	270°	360°
Located in paved area or vegetative ground cover	Paved	Paved

Monitor Information								
	SO_2	**CO**	**PM_{10}**	**$PM_{2.5}$**	**$PM_{2.5}$**	**WS**	**WD**	
Instrument Manufacturer	TECO	TECO	Rupprecht & Patashnick	(co-located)	Rupprecht & Patashnick	RM Young	RM Young	
Model No.	43A	48	1400A		2025	05103VP	05103VP	
AQS Method Code	060	054	079		120	Not entered into AQS		
Date sampling began	1/72	1/72	2/92		1/99	-	-	
Frequency	Continuous	Continuous	Continuous	1 in 6	1 in 3	Continuous	Continuous	
Probe material	Teflon	Teflon	N/A		N/A	N/A	N/A	
Residence Time (seconds)	No data	No data	N/A		N/A	N/A	N/A	
Distance between co-located monitors	N/A	N/A	N/A		4 m	N/A	N/A	

Site and Data History	
Date of Occurrence	**Reasons for Invalid or Missing Data; Other site changes**
7/18/05 – 7/19/06	No $PM_{2.5}$ data collected. Site shut-down due to re-roofing
7/18/05 – 8/2/06	No CO and SO_2 data collected. Site shut-down due to re-roofing
7/18/05 – 8/5/06	No PM_{10} data collected. Site shut-down due to re-roofing
1/99 to 12/05	$PM_{2.5}$ collected daily. Since 1/1/06, sampling reduced (with EPA approval) to 1 in 3 days
8/2/06	$PM_{2.5}$ sampler changed from Anderson to R & P

SITE REPRESENTATIVENESS

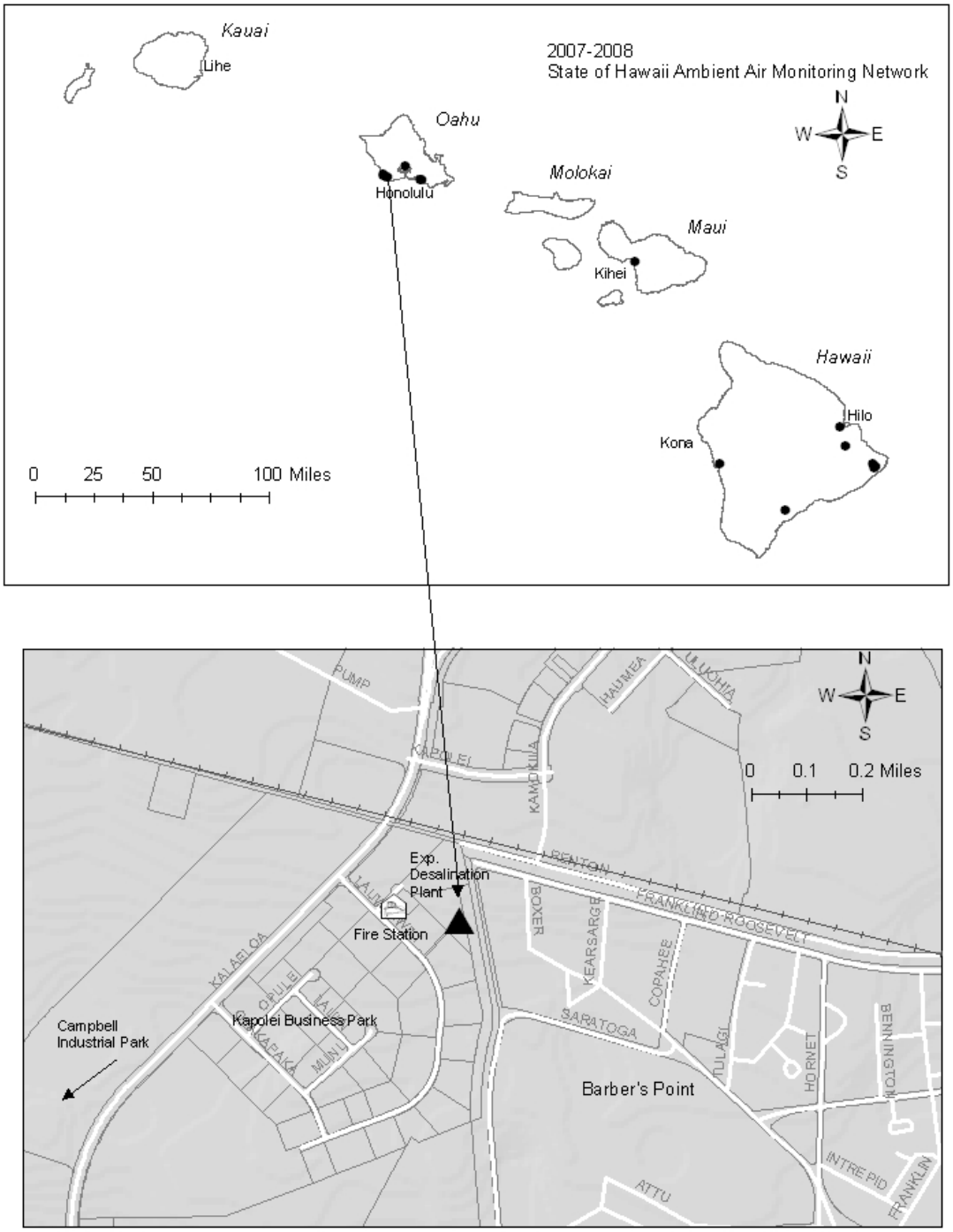
	CO	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Spatial Scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Averaging Times	1-hr; 8-hr	3-hr; 24-hr; Annual	24-hr; Annual	24-hr; Annual
Monitoring Objective	Population Exposure	Population Exposure	Population Exposure	Population Exposure
Suitable for comparison against annual $PM_{2.5}$ NAAQS?	N/A	N/A	N/A	Yes

Planned station modifications within the next 18 months:

- No additions or modifications are planned for this station.

Figure 3

KA5 150030010
Kapolei Station



State of Hawaii Ambient Air Monitoring Network

SITE REPORT:	KA5 Kapolei

Date of Report:	5/21/2008

SITE INFORMATION

City: Kapolei	**CDP:** Honolulu	**Census Tract:** 85	**AIRS ID:** 150030010	
Address: 2052 Lauwiliwili St., Kapolei (Oahu)				
UTM (NAD 83): 4N North 2358251.4 m East 594516.6 m		**Latitude (NAD 83):** 21° 19' 25.5" N **Longitude:** 158° 05' 19.0" W		**Elevation (MSL):** 18 m
Pollutants: CO, SO_2, NO_2, PM_{10}, $PM_{2.5}$ (SLAMS)				
Name(s) of nearest intersecting street(s): Kalaeloa Blvd.; Lauwiliwili St.				
Brief description of site location and landmarks: Located in the Kapolei Business Park, the station is in a relatively undeveloped area about 200 yards south of the vacant Desalination Plant. The Kapolei fire station is located approximately 200 yards west and Campbell Industrial Park (CIP) is located approximately one mile south of the station.				
Agency preparing this report: Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section				
Agency responsible for data collection and site maintenance: Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section				

GENERAL SITE DESCRIPTION

Mobile Source				
Type	Kalaeloa Blvd.	Lauwiliwili St.	H-1 Freeway	
Freeway			X	
Major Street or Highway	X			
Local Street or Road		X		
Traffic Activity				
Distance of roadway from air intake (m)	379	167	686	
Direction of roadway from air inlet	NW	W	N	
Composition of roadway	asphalt	asphalt	asphalt	
Number of traffic lanes	4	2	6	
Average daily traffic (estimate)	No data	No data	No data	
Average vehicle speed (estimate, mph)	35	30	55	
Traffic one way or two	2	2	2	
Number of parking lanes	0	0	0	
Roadway paved?	Y	Y	Y	

Obstructions			
Type	**Size (m)**	**Direction from Site**	**Distance from Site (m)**
None			

Meteorology and Climatology: Source of met data is site WS, WD and ambient temperature

DATA QUALITY

Audits	Result
Last PEP Audit:	
Last NPAP Audit:	-
Last Independent (DOH) Audit: 6/8/07	Pass
Last Flow Audit:	PM_{10}: $PM_{2.5}$:
Precision/Accuracy reports submitted to AQS:	Yes
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2008 deadline

SITE AND MONITOR INFORMATION (KA5 continued)

Probe Siting		
	Gases (CO, SO_2, NO_2)	**PM_{10}, $PM_{2.5}$**
Location	Top of shelter	Top of shelter
Shelter: height (m) width (m) depth (m)	 4 2.4 5	 4 2.4 5
Horizontal distance from supporting structure (m)	N/A	N/A
Vertical distance above supporting structure (m)	1	1
Height of probe above ground (m)	5	5
Distance from tree(s) (m)	106	106 (PM_{10}) inlet 117 ($PM_{2.5}$) inlet
Horizontal distance from edge of nearest traffic lane (m)	167	167
Horizontal distance from nearest parking lot (m)	N/A	N/A
Horizontal distance from walls, parapets, penthouses (m)	N/A	N/A
Distance from obstacles, such as buildings (m)	170	170
Distance from furnace or incineration flues (m)	N/A	N/A
Unrestricted air flow	360°	360°
Located in paved area or vegetative ground cover	Vegetative/Barren	Vegetative/Barren

Monitor Information									
	CO	**SO_2**	**NO_2**	**PM_{10}**	**PM_{10}**	**$PM_{2.5}$**	**$PM_{2.5}$**	**WS**	**WD**
Instrument Manufacturer	TECO	TECO	TECO	R & P	Met-One	Anderson	Met-One	RM Young	RM Young
Model No.	48	43A	42C	1400AB	BAM1020	RAAS2.5	BAM1020	05103VP	05103VP
AQS Method Code	054	060	074	079	122	120	170	Not entered into AQS	
Date sampling began	7/29/02	7/29/02	7/29/02	2/92	4/19/08	7/02	4/19/08	-	-
Frequency	Cont.	Cont.	Cont.	Cont.	Cont.	1 in 3	Cont.	Cont.	Cont.
Probe material	Glass	Glass	Glass	N/A	N/A	N/A	N/A	N/A	N/A
Residence Time (seconds)	No data	No data	No data	N/A	N/A	N/A	N/A	N/A	N/A
Distance between co-located monitors	N/A	N/A	N/A					N/A	N/A

Site and Data History	
Date of Occurrence	**Reasons for Invalid or Missing Data; Other site changes**
July 2002	Site moved approximately 250 yards south from original location. The original location was established in 1991 but siting audits concluded that the Desalination plant was an obstacle when the winds were from the southerly direction (from the Industrial Park).
3/20/08 - 4/18/08	Site shut down for repairs. PM_{10} BAM and $PM_{2.5}$ BAM installed.

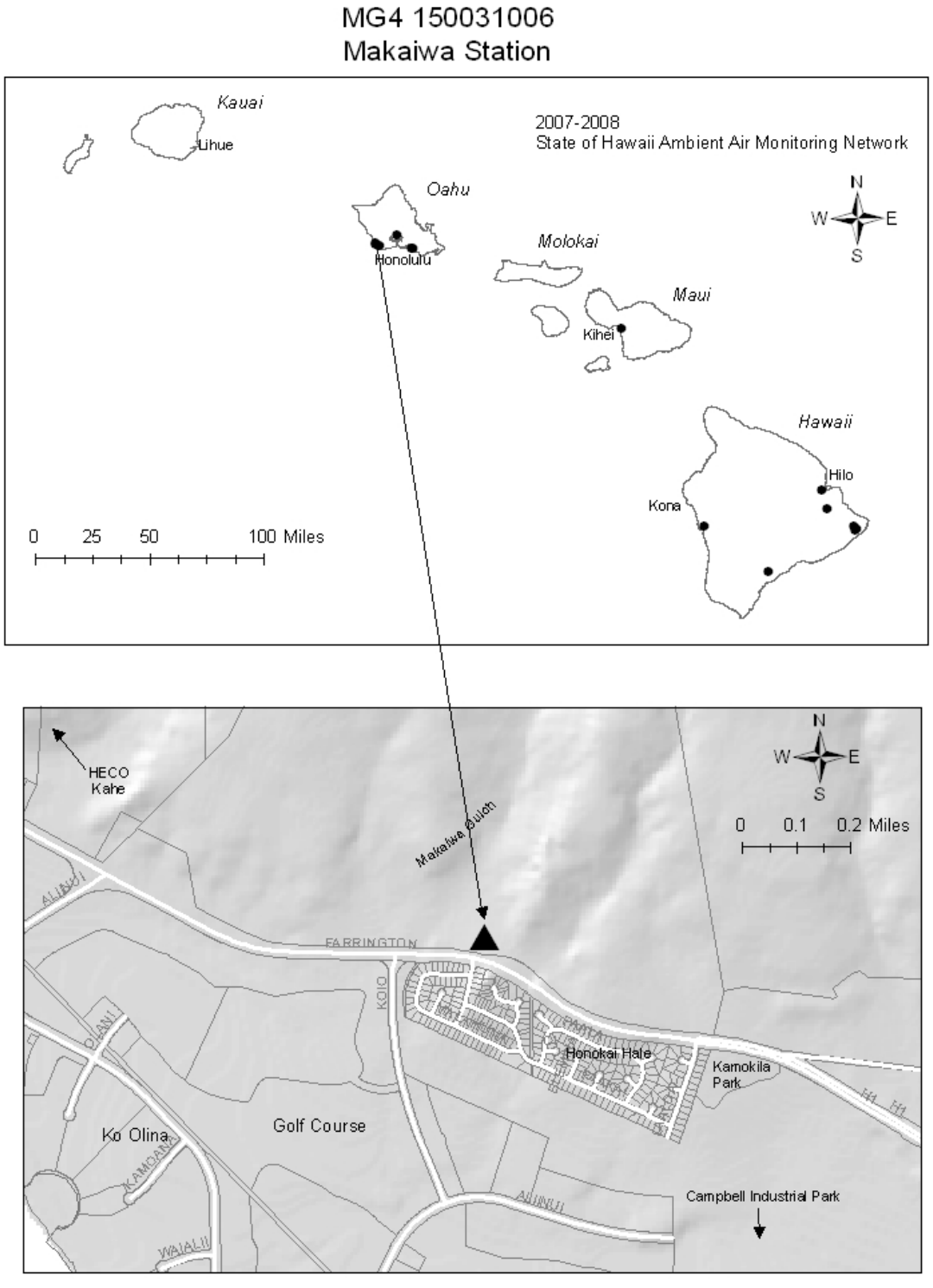
SITE REPRESENTATIVENESS

	CO	**SO_2**	**NO_2**	**PM_{10}**	**$PM_{2.5}$**
Spatial Scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Averaging Times	1-hr; 8-hr	3-hr; 24-hr; annual	annual	24-hr; annual	24-hr; annual
Monitoring Objective	Source Impact	Source Impact	Source Impact	Source Impact	Source Impact
Suitable for comparison against annual $PM_{2.5}$ NAAQS?	N/A	N/A	N/A	N/A	Yes

Planned station modifications within the next 18 months:

- The TEOM PM_{10} will be operated concurrently with the BAM 1020 PM_{10} at least until January 1, 2009 for data comparison purposes. If the data is satisfactory, the TEOM will be discontinued.
- The manual FRM $PM_{2.5}$ will be operated on a 1 in 3 day schedule with the continuous BAM 1020 $PM_{2.5}$ at a minimum, until January 1, 2009, for data comparison purposes. If the data is satisfactory, the manual Anderson RAAS2.5 will be discontinued.

Figure 4


MG4 150031006
Makaiwa Station
2007-2008
State of Hawaii Ambient Air Monitoring Network
Kauai
Lihue
Oahu
Honolulu
Molokai
Maui
Kihei
Hawaii
Hilo
Kona
N
W
E
S
0 25 50 100 Miles
HECO
Kahe
Makaiwa Gulch
0 0.1 0.2 Miles
FARRINGTON
KOIO
OLANI
ALIINUI
Honokai Hale
Kamokila
Park
Ko Olina
Golf Course
KAMOANA
WAIALII
Campbell Industrial Park

State of Hawaii Ambient Air Monitoring Network

SITE REPORT:	MG4 Makaiwa

Date of Report:	5/21/2008

SITE INFORMATION

City: Kapolei	**CDP:** Honolulu	**Census Tract:** 86.03	**AIRS ID:** 150031006
Address: 92-670 Farrington Hwy., Kapolei (Oahu)			
UTM (NAD 83): 4N North 2360508.6 m East 591978 m		**Latitude (NAD 83):** 21° 20' 39.4" N **Longitude:** 158° 06' 46.7" W	**Elevation (MSL):** 51 m
Pollutants: SO_2 (SLAMS)			
Name(s) of nearest intersecting street(s): Farrington Hwy.			
Brief description of site location and landmarks: Located across from the Honokai Hale subdivision in Makaiwa Gulch, approximately 1 mile southeast of the HECO Kahe power plant.			
Agency preparing this report: Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
Agency responsible for data collection and site maintenance: Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

GENERAL SITE DESCRIPTION

Mobile Source				
Type	Farrington Hwy.			
Freeway				
Major Street or Highway	X			
Local Street or Road				
Traffic Activity				
Distance of roadway from air intake (m)	26			
Direction of roadway from air inlet	S			
Composition of roadway	asphalt			
Number of traffic lanes	4			
Average daily traffic (estimate)	45,532 (2001)[1]			
Average vehicle speed (estimate, mph)	50			
Traffic one way or two	2			
Number of parking lanes	0			
Roadway paved?	Y			

Obstructions			
Type	**Size**	**Direction from Site**	**Distance from Site**
None			

Meteorology and Climatology: Source of met data is site WS, WD

[1] Source: State of Hawaii, Department of Transportation

DATA QUALITY

Audits	Result
Last PEP Audit: Not applicable	
Last NPAP Audit:	-
Last Independent (DOH) Audit: 6/7/07	Pass
Last Flow Audit: Not applicable	
Precision/Accuracy reports submitted to AQS:	Yes
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2008 deadline

SITE AND MONITOR INFORMATION (MG4 continued)

Probe Siting		
	Gases (SO_2)	
Location	Top of shelter	
Shelter: height (m) width (m) depth (m)	 4 5 2	
Horizontal distance from supporting structure (m)	N/A	
Vertical distance above supporting structure (m)	1	
Height of probe above ground (m)	4	
Distance from tree(s) (m)	13 (SE); 16 (N)	
Horizontal distance from edge of nearest traffic lane (m)	26	
Horizontal distance from nearest parking lot (m)	N/A	
Horizontal distance from walls, parapets, penthouses (m)	N/A	
Distance from obstacles, such as buildings (m)	N/A	
Distance from furnace or incineration flues (m)	N/A	
Unrestricted air flow	360°	
Located in paved area or vegetative ground cover	Vegetative/Barren	

Monitor Information							
	SO_2	**WS**	**WD**				
Instrument Manufacturer	TECO	RM Young	RM Young				
Model No.	43A	05103VP	05103VP				
AQS Method Code	060	Not entered into AQS					
Date sampling began	7/89	-	-				
Frequency	Continuous	Continuous	Continuous				
Probe material	Glass	N/A	N/A				
Residence Time (seconds)	No data	N/A	N/A				
Distance between co-located monitors	N/A	N/A	N/A				

Site and Data History	
Date of Occurrence	**Reasons for Invalid or Missing Data; Other site changes**
	None

SITE REPRESENTATIVENESS

	SO_2				
Spatial Scale	Neighborhood				
Averaging Times	3-hr; 24-hr; annual				
Monitoring Objective	Source Impact				
Suitable for comparison against annual $PM_{2.5}$ NAAQS?	N/A				

Planned station modifications within the next 18 months:

- No additions or modifications are planned for this station.

PC3 150032004
Pearl City Station

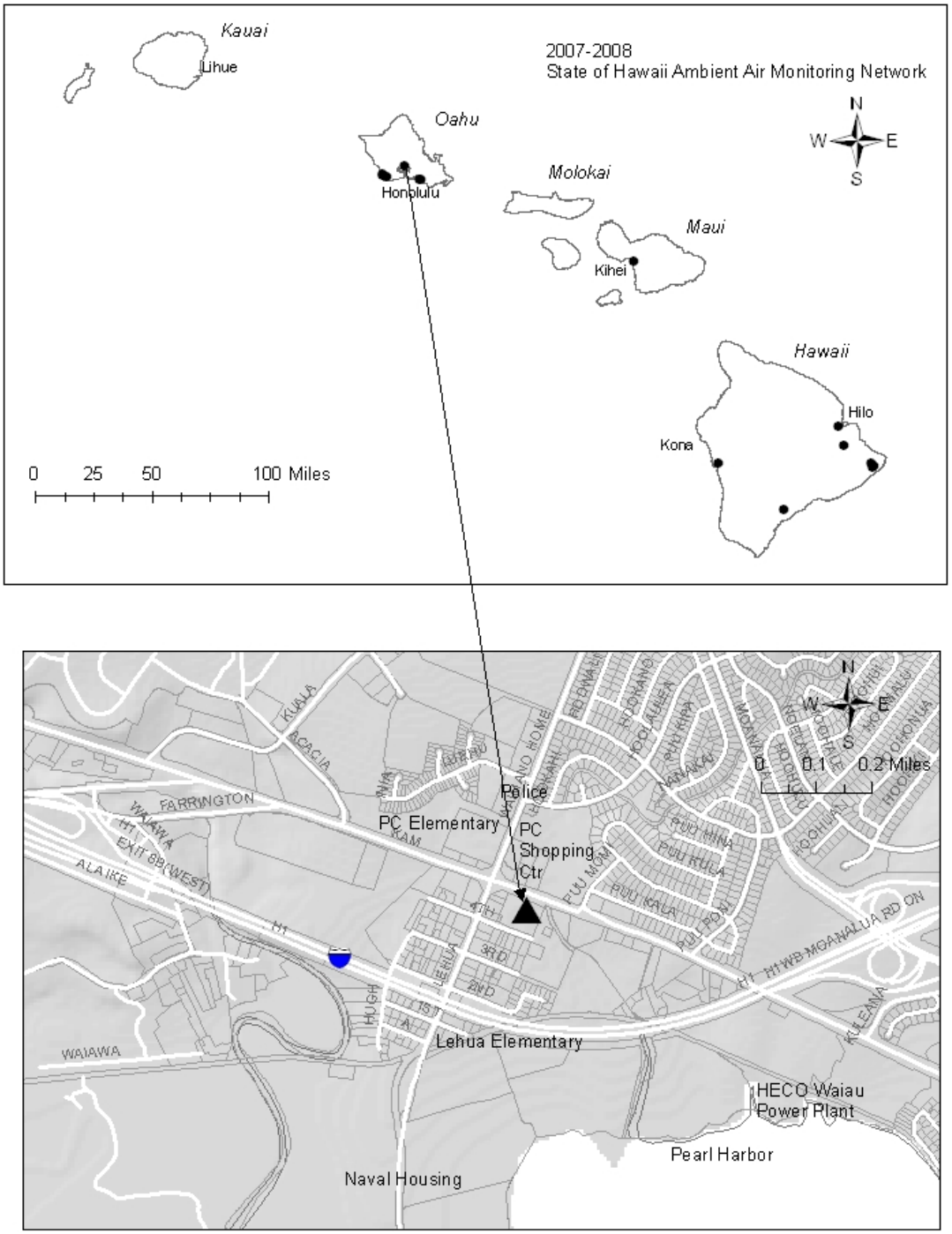


Figure 5

State of Hawaii Ambient Air Monitoring Network

SITE REPORT:	PC3 Pearl City

Date of Report:	5/21/2008

SITE INFORMATION

City: Pearl City	**CDP:** Honolulu	**Census Tract:** 80.01	**AIRS ID:** 150032004	
Address: 860 4th St., Pearl City (Oahu)				
UTM (NAD 83): 4N North 2365975.2 m East 606858.9 m		**Latitude (NAD 83):** 21° 23' 34.2" N **Longitude:** 157° 58' 08.9" W		**Elevation (MSL):** 23 m
Pollutants: PM_{10}, $PM_{2.5}$, $PM_{2.5}$ (SLAMS) Speciation, Air Toxics (SPM)				
Name(s) of nearest intersecting street(s): 4th St., Kamehameha Hwy., Lehua Avenue, H-1 Freeway				
Brief description of site location and landmarks: Located on the Department of Health building at 860 4th St., Pearl City. Approximately SSW of the Pearl City Shopping Center and Kamehameha Hwy., N of the H-1 freeway and approximately 1 mile west of HECO Waiau and 3 miles NW of the Pearl Harbor Naval Complex.				
Agency preparing this report: Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section				
Agency responsible for data collection and site maintenance: Department of Health, State laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section				

GENERAL SITE DESCRIPTION

Mobile Source				
Type	4th St.	Lehua Ave.	Kam. Hwy.	H-1
Freeway				X
Major Street or Highway			X	
Local Street or Road	X			
Through Street or Highway		X		
Traffic Activity				
Distance of roadway from air intake (m)	50	138	58	320
Direction of roadway from air inlet	S	W	N	S
Composition of roadway	asphalt	asphalt	asphalt	concrete
Number of traffic lanes	2	4	6	10
Average daily traffic (estimate)	No Data	15,692 (2002)[1]	52,113 (2002)[1]	No Data
Average vehicle speed (estimate, mph)	20	30	35	55
Traffic one way or two	2	2	2	2
Number of parking lanes	0	2	0	0
Roadway paved?	Y	Y	Y	Y

Obstructions			
Type	**Size (m)**	**Direction from Site**	**Distance from Site (m)**
Air conditioning vent and mechanical room	Ht. of A/C vent: 4 m Ht. of room: 3 m	N	14

Meteorology and Climatology: Source of met data is site WS, WD

[1] Source: State of Hawaii, Department of Transportation

DATA QUALITY

Audits	Result
Last PEP Audit:	
Last NPAP Audit: Not applicable	
Last Independent (DOH) Audit: 12/3/07	Pass
Last Flow Audit:	PM_{10}: $PM_{2.5}$: $PM_{2.5}$speciation:
Precision/Accuracy reports submitted to AQS:	Yes
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2008 deadline

SITE AND MONITOR INFORMATION (PC3 continued)

Probe Siting				
	PM	**Speciation**	**Toxics (metals)**	**Toxics (Gas)**
Location	Top of building	Top of building	Top of building	Top of building
Shelter: height (m) width (m) depth (m)	N/A	N/A	N/A	N/A
Horizontal distance from supporting structure (m)	N/A	N/A	N/A	N/A
Vertical distance above supporting structure (m)	2	2	1	2
Height of probe above ground (m)	13	13	12	13
Distance from tree(s) (m)	N/A	N/A	N/A	N/A
Horizontal distance from edge of nearest traffic lane (m)	58	53	53	60
Horizontal distance from nearest parking lot (m)	-	-	-	-
Horizontal distance from walls, parapets, penthouses (m)	14	19	19	12
Distance from obstacles, such as buildings (m)	N/A	N/A	N/A	N/A
Distance from furnace or incineration flues (m)	N/A	N/A	N/A	N/A
Unrestricted air flow	360°	360°	360°	360°
Located in paved area or vegetative ground cover	rooftop	rooftop	rooftop	rooftop

Monitor Information								
	PM_{10}	**PM_{10}**	**$PM_{2.5}$**	**$PM_{2.5}$**	**Speciation**	**Air Toxics**	**WS**	**WD**
Instrument Manufacturer	R & P	Met One	Anderson	Anderson (co-located)	Met One	-	RM Young	RM Young
Model No.	1400A		RAAS 2.5	RAAS 2.5	SASS	-	05103VP	05103VP
AQS Method Code	079	170	120				Not entered into AQS	
Date sampling began	2/94	9/29/07	1/99	1/99	1/03	1/02	-	-
Frequency	continuous	continuous	1 in 3	1 in 6	1 in 6	1 in 6	continuous	continuous
Probe material	N/A	N/A	N/A		Aluminum	-	N/A	N/A
Residence Time (seconds)	N/A	N/A	N/A		No data	No data	N/A	N/A
Distance between co-located monitors	N/A	N/A	4 m		N/A	N/A	N/A	N/A

Site and Data History	
Date of Occurrence	**Reasons for Invalid or Missing Data; Other site changes**
8/5/02 – 11/27/02	Building renovations and installation of AC vent
9/29/07	Met One BAM continuous PM_{10} began operation. R & P TEOM discontinued.

SITE REPRESENTATIVENESS

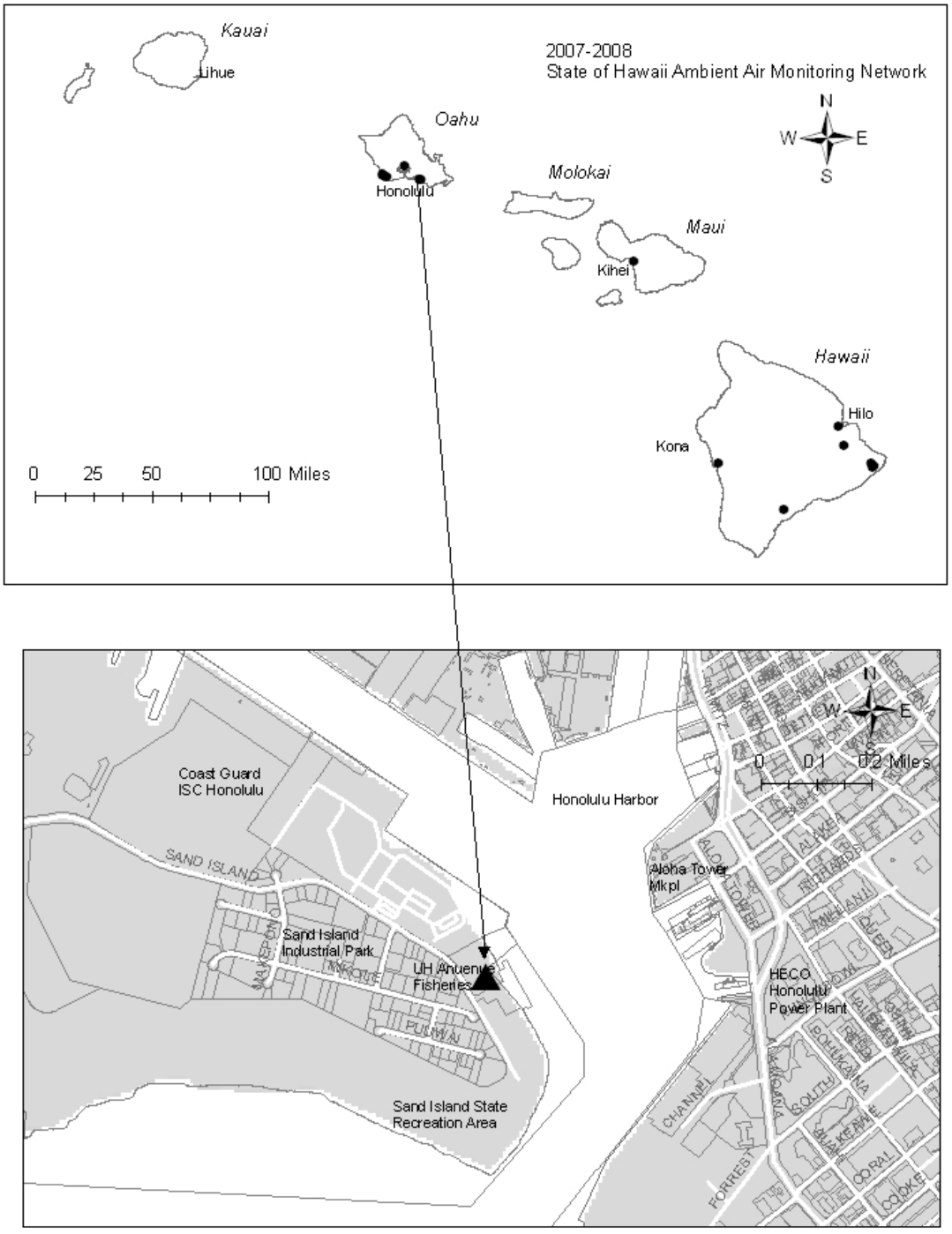
	PM_{10}	**$PM_{2.5}$**	**Speciation**	**Air Toxics**	
Spatial Scale	Neighborhood	Neighborhood	Neighborhood	Neighborhood	
Averaging Times	24-hr; annual	24-hr; annual	24-hr	24-hr	
Monitoring Objective	Population exposure	Population exposure	Population exposure	Population exposure	
Suitable for comparison against annual $PM_{2.5}$ NAAQS?	N/A	Yes	N/A	N/A	

Planned station modifications within the next 18 months:

- This site has been selected to be the NCORE station for the state of Hawaii. If EPA approves, and pending funding, this site may undergo construction. Currently, all of the equipment is located on the roof of the Leeward Health Center building. A room is available for the NCORE equipment but requires extensive renovation prior to occupancy. Construction activities should not affect the data currently being collected at this station.

Figure 6

SI2 150031004
Sand Island Station



State of Hawaii Ambient Air Monitoring Network

SITE REPORT:	SI2 Sand Island

Date of Report:	5/21/2008

SITE INFORMATION

City: Honolulu	**CDP:** Honolulu	**Census Tract:** 57	**AIRS ID:** 150031004	
Address: Anuenue Fisheries, Honolulu (Oahu)				
UTM (NAD 83): 4N North 2356193.9 m East 617084.4 m		**Latitude (NAD 83):** 21° 18' 13.8" N **Longitude:** 157° 52' 16.2" W		**Elevation (MSL):** 5 m
Pollutants: O_3, $PM_{2.5}$ (SLAMS)				
Name(s) of nearest intersecting street(s): Sand Island Parkway				
Brief description of site location and landmarks: Located in the University of Hawaii's Anuenue Fisheries near the entrance to the Sand Island State Recreation Area. Sand Island is at the southern point of downtown Honolulu, across from Honolulu Harbor and Aloha Tower.				
Agency preparing this report: Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section				
Agency responsible for data collection and site maintenance: Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section				

GENERAL SITE DESCRIPTION

Mobile Source				
Type	SI Parkway			
Freeway				
Major Street or Highway				
Local Street or Road				
Through Street or Highway	X			
Traffic Activity				
Distance of roadway from air intake (m)	37			
Direction of roadway from air inlet	W			
Composition of roadway	asphalt			
Number of traffic lanes	2			
Average daily traffic (estimate)	1592 (2002)[1]			
Average vehicle speed (estimate, mph)	30			
Traffic one way or two	2			
Number of parking lanes	2			
Roadway paved?	Y			

Obstructions			
Type	**Size (m)**	**Direction from Site**	**Distance from Site (m)**
Tent shelter	Height: 6	S	14

Meteorology and Climatology: Source of met data is site WS, WD

[1] Source: State of Hawaii, Department of Transportation

DATA QUALITY

Audits	Result
Last PEP Audit:	
Last NPAP Audit:	-
Last Independent (DOH) Audit: 12/4/07	Pass
Last Flow Audit:	$PM_{2.5}$:
Precision/Accuracy reports submitted to AQS:	Yes
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2008 deadline

SITE AND MONITOR INFORMATION (SI2 continued)

Probe Siting		
	Gases (O_3)	**PM**
Location	Top of shelter	Top of shelter
Shelter: height (m) width (m) depth (m)	 3 2 5	 3 2 5
Horizontal distance from supporting structure (m)	N/A	N/A
Vertical distance above supporting structure (m)	1	2
Height of probe above ground (m)	4	5
Distance from tree(s) (m)	N/A	N/A
Horizontal distance from edge of nearest traffic lane (m)	37	37
Horizontal distance from nearest parking lot (m)	40	40
Horizontal distance from walls, parapets, penthouses (m)	N/A	N/A
Distance from obstacles, such as buildings (m)	14	14
Distance from furnace or incineration flues ()	N/A	N/A
Unrestricted air flow	360°	360°
Located in paved area or vegetative ground cover	vegetative	vegetative

Monitor Information							
	O_3	**$PM_{2.5}$**	**WS**	**WD**			
Instrument Manufacturer	TECO	Anderson	RM Young	RM Young			
Model No.	49C	RAAS 2.5	05103VP	05103VP			
AQS Method Code	047	120	Not entered into AQS				
Date sampling began	2/81	5/99	-	-			
Frequency	Continuous	5/99	Continuous	Continuous			
Probe material	Glass	-	N/A	N/A			
Residence Time (seconds)	No data	No data	N/A	N/A			
Distance between co-located monitors	N/A	N/A	N/A	N/A			

Site and Data History	
Date of Occurrence	**Reasons for Invalid or Missing Data; Other site changes**
4/7/06	Replaced Dasibi O_3 analyzer with TECO analyzer

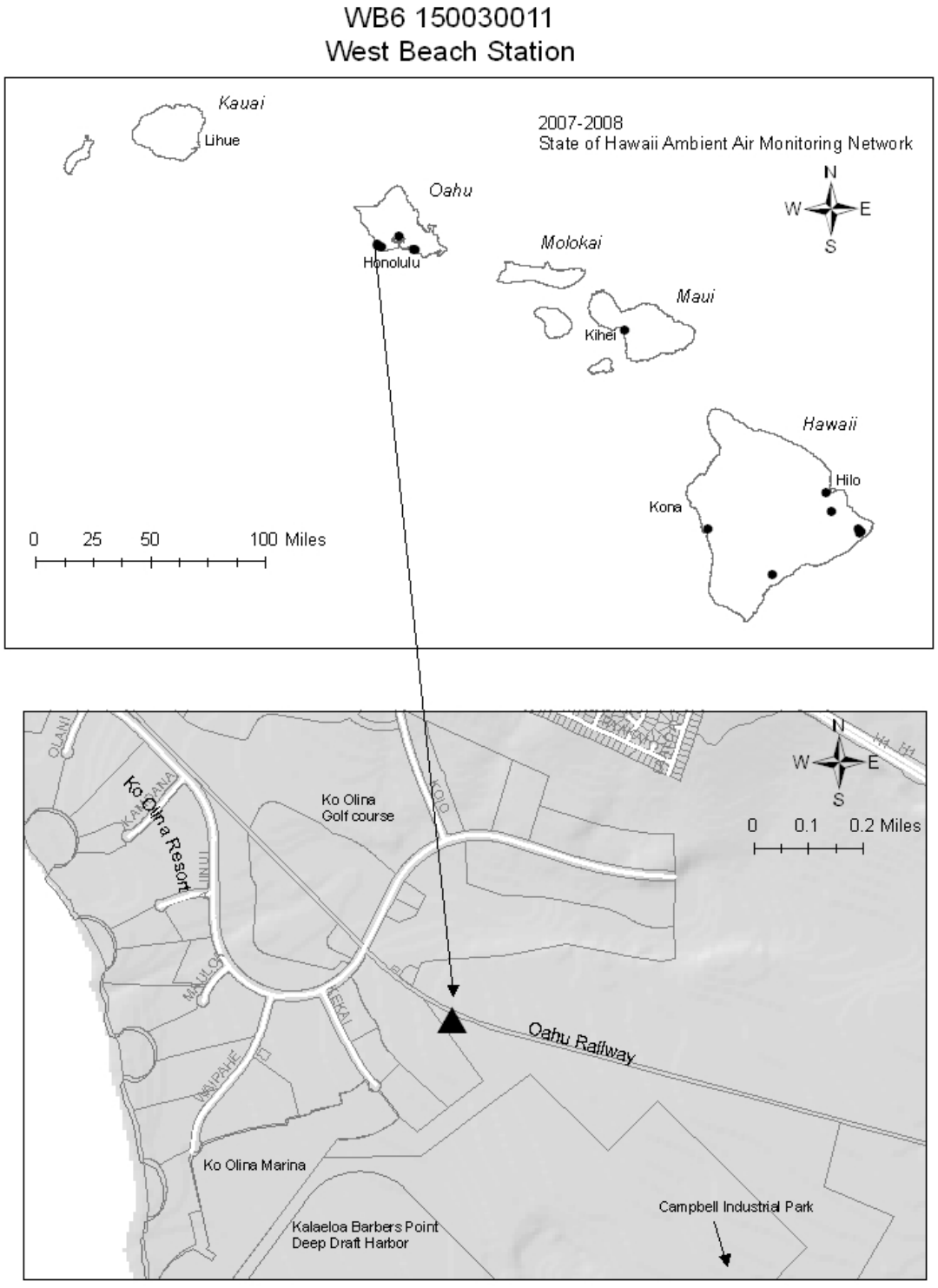
SITE REPRESENTATIVENESS

	O_3	**$PM_{2.5}$**			
Spatial Scale	Urban	Urban			
Averaging Times	1-hr; 8-hr	24-hr; annual			
Monitoring Objective	Maximum	Transport			
Suitable for comparison against annual $PM_{2.5}$ NAAQS?	N/A	Yes			

Planned station modifications within the next 18 months:

- A continuous BAM 1020 $PM_{2.5}$ is planned to be installed at this site. The manual FRM $PM_{2.5}$ will continue to operate as a co-located instrument on a 1 in 6 day schedule.

Figure 4


WB6 150030011
West Beach Station
2007-2008
State of Hawaii Ambient Air Monitoring Network
Kauai
Lihue
Oahu
Honolulu
Molokai
Maui
Kihei
Hawaii
Hilo
Kona
N
W
E
S
0 25 50 100 Miles
Ko Olina Resort
Ko Olina Golf course
Ko Olina Marina
Oahu Railway
Kalaeloa Barbers Point Deep Draft Harbor
Campbell Industrial Park
0 0.1 0.2 Miles

State of Hawaii Ambient Air Monitoring Network

SITE REPORT:	WB6 West Beach

Date of Report:	5/21/2008

SITE INFORMATION

City: Kapolei	**CDP:** Honolulu	**Census Tract:** 86.10	**AIRS ID:** 150030011
Address: Ko'Olina Golf Course, Kapolei (Oahu)			
UTM (NAD 83): 4N North 2359232.3 m East 591864.6 m		**Latitude (NAD 83):** 21° 19' 57.9" N **Longitude:** 158° 06' 50.9 W	**Elevation (MSL):** 15 m
Pollutants: SO_2, NO_2, PM_{10} (SLAMS)			
Name(s) of nearest intersecting street(s): Aliinui Drive			
Brief description of site location and landmarks: Located within the Ko'Olina Resort Golf Course, northwest of Campbell Industrial Park and Barber's Point Deep Draft Harbor			
Agency preparing this report: Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
Agency responsible for data collection and site maintenance: Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

GENERAL SITE DESCRIPTION

Mobile Source				
Type	Aliinui Dr.			
Freeway				
Major Street or Highway				
Local Street or Road	X			
Through Street or Highway				
Traffic Activity				
Distance of roadway from air intake (m)	315			
Direction of roadway from air inlet	NW			
Composition of roadway	asphalt			
Number of traffic lanes	4			
Average daily traffic (estimate)	No data			
Average vehicle speed (estimate, mph)	30			
Traffic one way or two	2			
Number of parking lanes	0			
Roadway paved?	Y			

Obstructions			
Type	**Size**	**Direction from Site**	**Distance from Site**
None			

Meteorology and Climatology: Source of met data is site WS, WD

DATA QUALITY

Audits	Result
Last PEP Audit: Not applicable	
Last NPAP Audit:	-
Last Independent (DOH) Audit: 6/5 - 6/6/07	Pass
Last Flow Audit:	PM_{10}:
Precision/Accuracy reports submitted to AQS:	Yes
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2008 deadline

SITE AND MONITOR INFORMATION (WB6 continued)

Probe Siting		
	Gases (SO_2, NO_2)	**PM_{10}**
Location	Top of Shelter	Top of Shelter
Shelter: height (m) width (m) depth (m)	 4 2 5	 4 2 5
Horizontal distance from supporting structure (m)	N/A	N/A
Vertical distance above supporting structure (m)	1	1
Height of probe above ground (m)	4	5
Distance from tree(s) (m)	8	10
Horizontal distance from edge of nearest traffic lane (m)	315	313
Horizontal distance from nearest parking lot (m)	N/A	N/A
Horizontal distance from walls, parapets, penthouses (m)	N/A	N/A
Distance from obstacles, such as buildings (m)	N/A	N/A
Distance from furnace or incineration flues (m)	N/A	N/A
Unrestricted air flow	360°	360°
Located in paved area or vegetative ground cover	vegetative	vegetative

Monitor Information							
	SO_2	**NO_2**	**PM_{10}**	**PM_{10}**	**PM_{10}**	**WS**	**WD**
Instrument Manufacturer	TECO	TECO	Anderson	Anderson co-located	Met One	RM Young	RM Young
Model No.	43A	42C	8500		BAM1020	05103VP	05103VP
AQS Method Code	060	074	064	064	122	Not entered into AQS	
Date sampling began	2/91	11/92	2/91		3/17/08	-	-
Frequency	continuous	continuous	1 in 6	1 in 6	continuous	continuous	continuous
Probe material	Glass	Glass	N/A	N/A	-	N/A	N/A
Residence Time (seconds)	No data	No data	N/A	N/A	N/A	N/A	N/A
Distance between co-located monitors	N/A	N/A			N/A	N/A	N/A

Site and Data History	
Date of Occurrence	**Reasons for Invalid or Missing Data; Other site changes**
3/17/08	Met One BAM continuous PM_{10} began operating; 1 in 6 day Anderson manual PM_{10} samplers discontinued. No co-location at this site. Anderson sampler operated at this site from 2/91-3/16/08

SITE REPRESENTATIVENESS

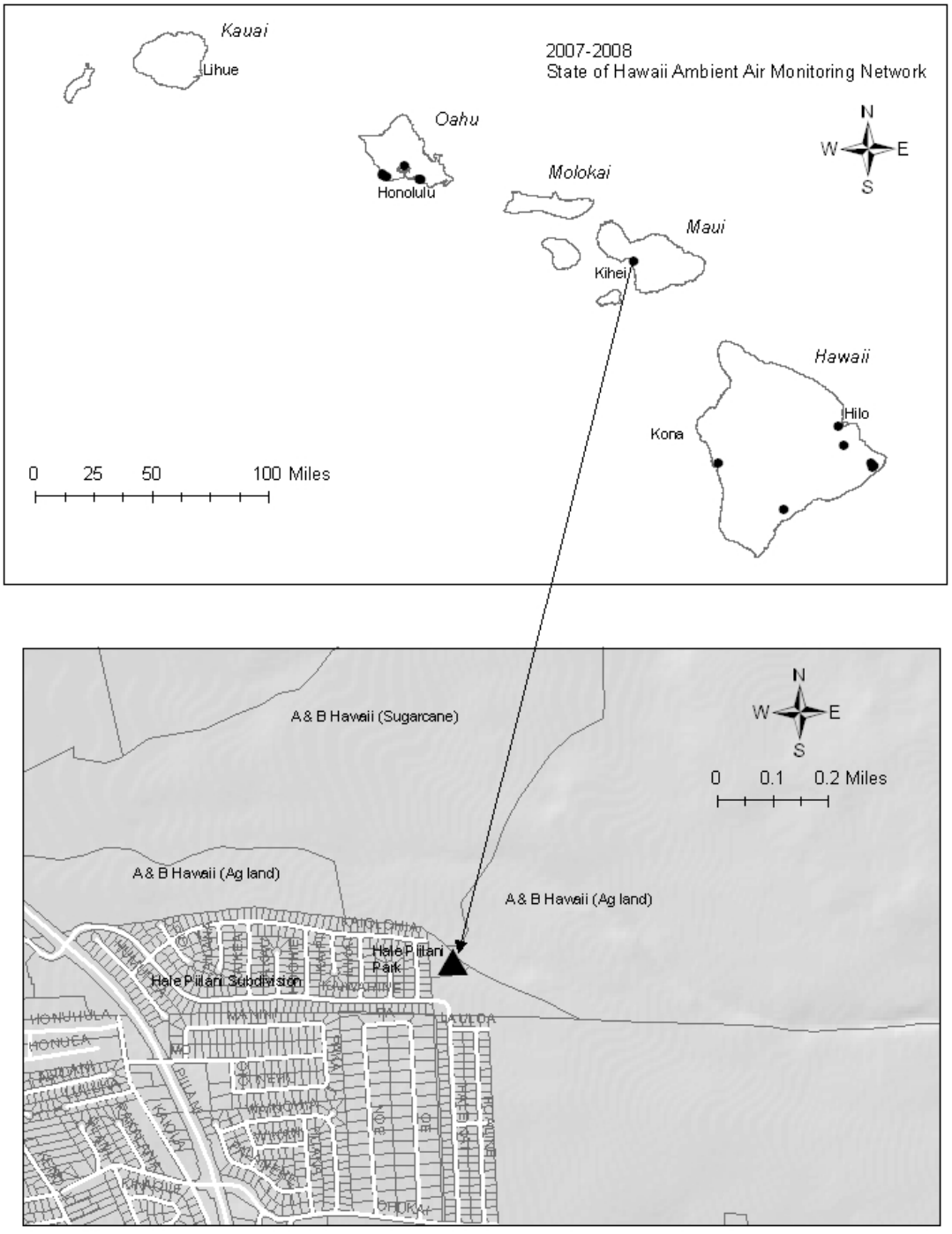
	SO_2	**NO_2**	**PM_{10}**		
Scale	Neighborhood	Neighborhood	Neighborhood		
Averaging Times	3-hr; 24-hr; annual	annual	24-hr; annual		
Monitoring Objective	Source impact	Source impact	Source impact		
Suitable for comparison against annual $PM_{2.5}$ NAAQS?	N/A	N/A	N/A		

Planned station modifications within the next 18 months:

- No additions or modifications are planned for this station.

Figure 5

KH4 150090006
Kihei Station



State of Hawaii Ambient Air Monitoring Network

SITE REPORT:	KH4 Kihei

Date of Report:	5/21/2008

SITE INFORMATION

City: Kihei	**CDP:** Maui	**Census Tract:** 307.01	**AIRS ID:** 150090006
Address: Hale Piilani Park (2) 3-8-4:31			
UTM (NAD 83): 4N North 2300013.2 m East 765846.9 m		**Latitude (NAD 83):** 20° 46' 51.6 N **Longitude:** 156° 26' 46.9 W	**Elevation (MSL):** 47 m
Pollutants: $PM_{2.5}$ (SLAMS); PM_{10} (SPM)			
Name(s) of nearest intersecting street(s): Kaiolohia, Kaiwahine			
Brief description of site location and landmarks: Located in Hale Piilani Park in the Hale Piilani subdivision of upper Kihei and surrounded to the north by agricultural land, primarily sugarcane.			
Agency preparing this report: Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
Agency responsible for data collection and site maintenance: Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

GENERAL SITE DESCRIPTION

Mobile Source				
Type	Kaiolohia	Kaiwahine		
Freeway				
Major Street or Highway				
Local Street or Road	X	X		
Through Street or Highway				
Traffic Activity				
Distance of roadway from air intake (ft)	No data	No data		
Direction of roadway from air inlet	-	-		
Composition of roadway	asphalt	asphalt		
Number of traffic lanes	2	2		
Average daily traffic (estimate)	No data	No data		
Average vehicle speed (estimate, mph)	25	25		
Traffic one way or two	2	2		
Number of parking lanes	0	0		
Roadway paved?	Y	Y		

Obstructions			
Type	**Size**	**Direction from Site**	**Distance from Site**
None			

Meteorology and Climatology: Source of met data is site WS, WD

DATA QUALITY

Audits	Result
Last PEP Audit:	
Last NPAP Audit: Not applicable	
Last Independent (DOH) Audit: 11/13/07	Pass
Last Flow Audit:	PM_{10}: $PM_{2.5}$:
Precision/Accuracy reports submitted to AQS:	N/A
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2008 deadline

SITE AND MONITOR INFORMATION (KH4 continued)

Probe Siting		
	PM	
Location	Top of Shelter	
Shelter: height (m) width (m) depth (m)	 4 2 5	
Horizontal distance from supporting structure (m)	N/A	
Vertical distance above supporting structure (m)	1	
Height of probe above ground (m)	5	
Distance from tree(s) (m)	-	
Horizontal distance from edge of nearest traffic lane (m)	-	
Horizontal distance from nearest parking lot (m)	-	
Horizontal distance from walls, parapets, penthouses (m)	N/A	
Distance from obstacles, such as buildings (m)	N/A	
Distance from furnace or incineration flues (m)	N/A	
Unrestricted air flow	360°	
Located in paved area or vegetative ground cover	vegetative	

Monitor Information							
	PM_{10}	**$PM_{2.5}$**	**$PM_{2.5}$**	**WS**	**WD**		
Instrument Manufacturer	R & P	Anderson	Met One	RM Young	RM Young		
Model No.	1400AB	RAAS 2.5	BAM1020	05103VP	05103VP		
AQS Method Code	079	120	170	Not entered into AQS			
Date sampling began	2/99	2/99	3/26/08	-	-		
Frequency	Continuous	1 in 6	Continuous	Continuous	Continuous		
Probe material	N/A	N/A	N/A	N/A	N/A		
Residence Time (seconds)	N/A	N/A	N/A	N/A	N/A		
Distance between co-located monitors	N/A	N/A	N/A	N/A	N/A		

Site and Data History	
Date of Occurrence	**Reasons for Invalid or Missing Data; Other site changes**
6/1/07	The $PM_{2.5}$ sampling frequency was changed from 1 in 3 to 1 in 6 days with EPA approval
3/26/08	Met One BAM continuous $PM_{2.5}$ began operating; 1 in 6 day Anderson manual $PM_{2.5}$ sampler discontinued. Anderson manual $PM_{2.5}$ operated at this site from 2/99 - 3/25/08

SITE REPRESENTATIVENESS

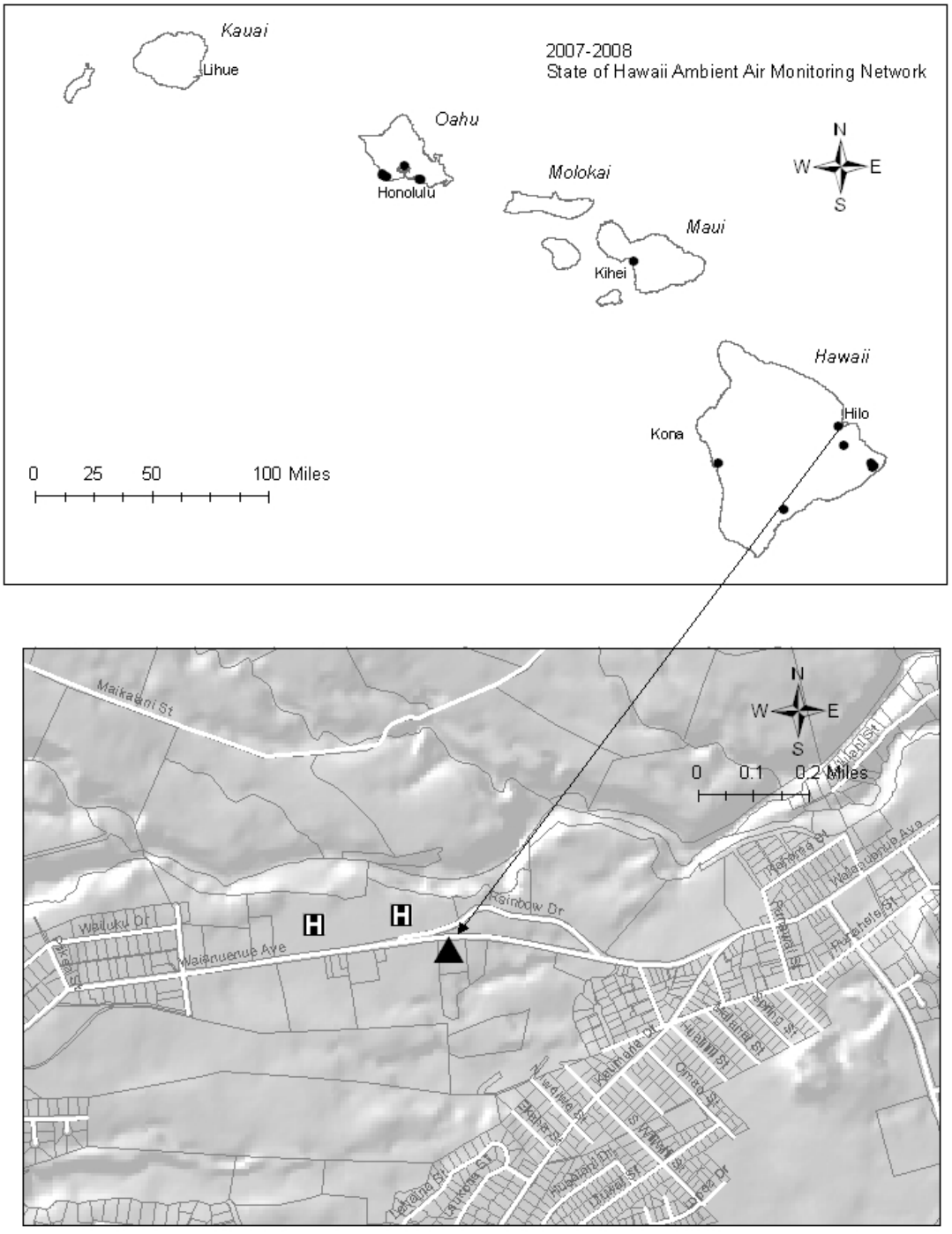
	PM_{10}	**$PM_{2.5}$**			
Scale	Neighborhood	Neighborhood			
Averaging Times	24-hr; annual	24-hr; annual			
Monitoring Objective	Source impact	Source impact			
Suitable for comparison against annual $PM_{2.5}$ NAAQS?	N/A	Yes			

Planned station modifications within the next 18 months:

- No additions or modifications are planned for this station.

Figure 6

HL11 150011006
Hilo Station



State of Hawaii Ambient Air Monitoring Network

SITE REPORT:	HL11 Hilo

Date of Report:	5/21/2008

SITE INFORMATION

City: Hilo	**CDP:** Hilo	**Census Tract:** 203	**AIRS ID:** 150011006
Address: 1099 Waianuenue Ave., Hilo (Hawaii)			
UTM (NAD 83): 4N North 2181602.2 m East 278797.6 m		**Latitude (NAD 83):** 19° 43' 03.3" N **Longitude:** 155° 06' 37.9" W	**Elevation (MSL):** 137 m
Pollutants: SO_2; $PM_{2.5}$ (SPM)			
Name(s) of nearest intersecting street(s): Waianuenue Ave.			
Brief description of site location and landmarks: Located on the grounds of the Adult Rehabilitation Center of Hilo near the Hilo Medical Center.			
Agency preparing this report: Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
Agency responsible for data collection and site maintenance: Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

GENERAL SITE DESCRIPTION

Mobile Source				
Type	Waianuenue			
Freeway				
Major Street or Highway	X			
Local Street or Road				
Through Street or Highway				
Traffic Activity				
Distance of roadway from air intake (m)	20			
Direction of roadway from air inlet	N			
Composition of roadway	Asphalt			
Number of traffic lanes	2			
Average daily traffic (estimate)	No data			
Average vehicle speed (estimate, mph)	30			
Traffic one way or two	2			
Number of parking lanes	0			
Roadway paved?	Y			

Obstructions			
Type	**Size**	**Direction from Site**	**Distance from Site**
None			

Meteorology and Climatology: Source of met data is site WS, WD

DATA QUALITY

Audit	Result
Last PEP Audit:	
Last NPAP Audit: Not applicable	
Last Independent (DOH) Audit: 8/10/07	Pass
Last Flow Audit:	$PM_{2.5}$:
Precision/Accuracy reports submitted to AQS:	Yes
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2008 deadline

SITE AND MONITOR INFORMATION (HL11 continued)

Probe Siting		
	Gases (SO_2)	**PM**
Location	Top of shelter	Top of shelter
Shelter: height (m) width (m) depth (m)	No data	No data
Horizontal distance from supporting structure (m)	No data	No data
Vertical distance above supporting structure (m)	No data	No data
Height of probe above ground (m)	No data	No data
Distance from tree(s) (m)	No data	No data
Horizontal distance from edge of nearest traffic lane (m)	No data	No data
Horizontal distance from nearest parking lot (m)	No data	No data
Horizontal distance from walls, parapets, penthouses (m)	No data	No data
Distance from obstacles, such as buildings (m)	No data	No data
Distance from furnace or incineration flues (m)	No data	No data
Unrestricted air flow	360°	360°
Located in paved area or vegetative ground cover	Vegetative	Vegetative

Monitor Information							
	SO_2	**$PM_{2.5}$**	**WS**	**WD**			
Instrument Manufacturer	TECO	Met-One	RM Young	RM Young			
Model No.	43C	BAM1020	05103VP	05103VP			
AQS Method Code	060	170	Not entered into AQS				
Date sampling began	3/95	5/1/08	-	-			
Frequency	Continuous	Continuous	Continuous	Continuous			
Probe material	Glass	N/A	N/A	N/A			
Residence Time (seconds)	-	N/A	N/A	N/A			
Distance between co-located monitors	N/A	N/A	N/A	N/A			

Site and Data History	
Date of Occurrence	**Reasons for Invalid or Missing Data; Other site changes**
5/1/08	Met One BAM continuous $PM_{2.5}$ began operating

SITE REPRESENTATIVENESS

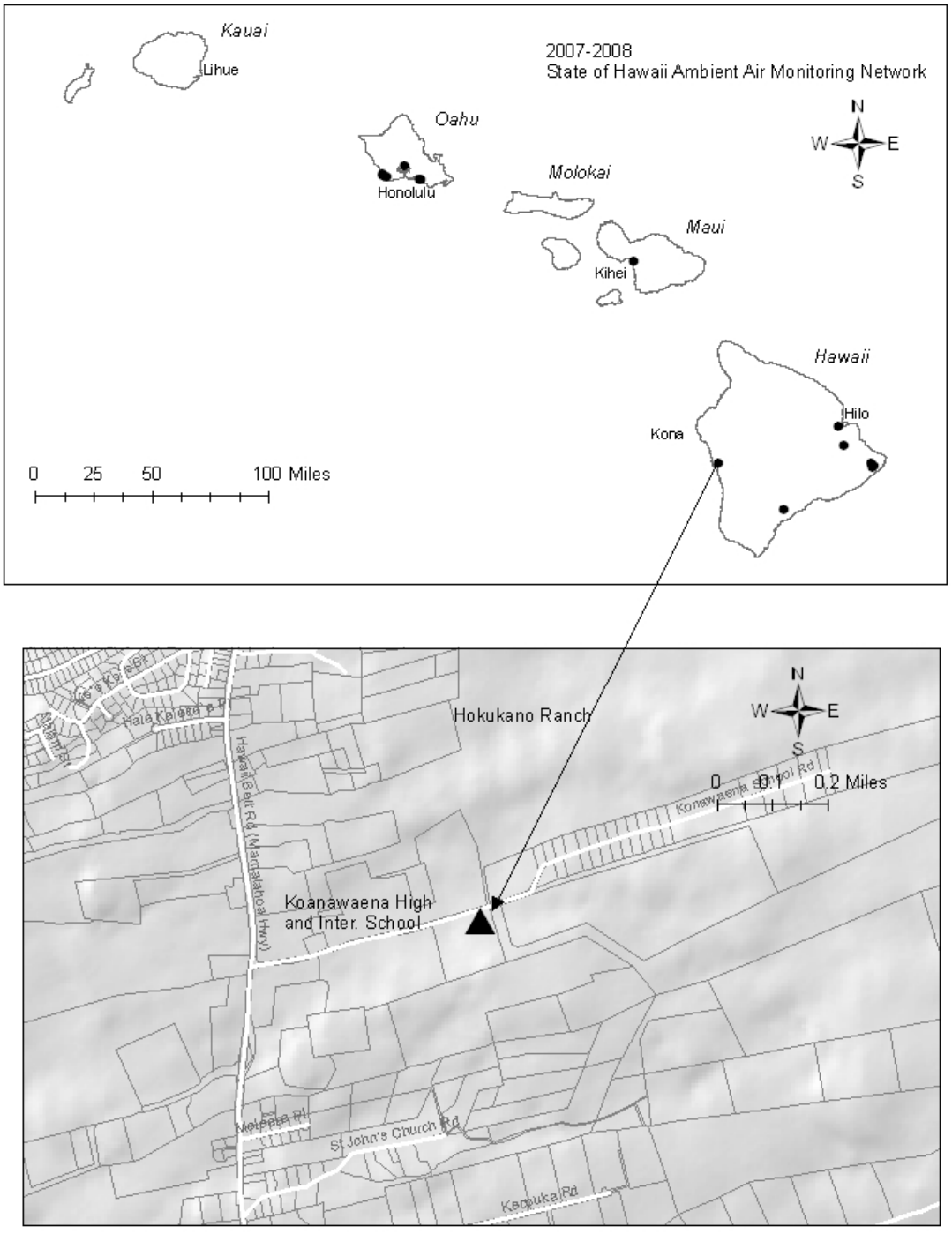
	SO_2	**$PM_{2.5}$**			
Scale	Neighborhood	Neighborhood			
Averaging Times	3-hr; 24-hr; annual	24-hr; annual			
Monitoring Objective	Population exposure	Population exposure			
Suitable for comparison against annual $PM_{2.5}$ NAAQS?	N/A	Yes			

Planned station modifications within the next 18 months:

- No additions or modifications are planned for this station.

Figure 7

KN12 150011012
Kona Station



State of Hawaii Ambient Air Monitoring Network

SITE REPORT:	KN12 Kona

Date of Report:	5/21/2008

SITE INFORMATION

City: Kailua-Kona	**CDP:** Kealakekua	**Census Tract:** 214	**AIRS ID:** 150011012
Address: 81-1043 Konawaena School Rd., Kealakekua (Hawaii)			
UTM (NAD 83): North 2160151.2 m East 823983.1 m		**Latitude (NAD 83):** 19° 30' 35.2" N **Longitude:** 155° 54' 48.3" W	**Elevation (MSL):** 517 m
Pollutants: SO_2; $PM_{2.5}$ (SPM)			
Name(s) of nearest intersecting street(s): Konawaena School Road			
Brief description of site location and landmarks: Located on the upper campus of Konawaena High School in Kealakekua, Hawaii.			
Agency preparing this report: Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
Agency responsible for data collection and site maintenance: Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

GENERAL SITE DESCRIPTION

Mobile Source				
Type	Konawaena School Road			
Freeway				
Major Street or Highway				
Local Street or Road				
Through Street or Highway	X			
Traffic Activity				
Distance of roadway from air intake (m)	-			
Direction of roadway from air inlet	-			
Composition of roadway	asphalt			
Number of traffic lanes	1			
Average daily traffic (estimate)	No data			
Average vehicle speed (estimate, mph)	10			
Traffic one way or two	2			
Number of parking lanes	0			
Roadway paved?	Y			

Obstructions			
Type	**Size**	**Direction from Site**	**Distance from Site**
None			

Meteorology and Climatology: Source of met data is site WS, WD

DATA QUALITY

Audit	Result
Last PEP Audit:	
Last NPAP Audit: Not applicable	
Last Independent (DOH) Audit: 8/27/07	Pass
Last Flow Audit:	$PM_{2.5}$:
Precision/Accuracy reports submitted to AQS:	Yes
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2008 deadline

SITE AND MONITOR INFORMATION (KN12 continued)

Probe Siting		
	Gases (SO_2)	**PM**
Location	Top of shelter	Top of shelter
Shelter: height (m) width (m) depth (m)	No data	No data
Horizontal distance from supporting structure (m)	No data	No data
Vertical distance above supporting structure (m)	No data	No data
Height of probe above ground (m)	No data	No data
Distance from tree(s) (m)	No data	No data
Horizontal distance from edge of nearest traffic lane (m)	No data	No data
Horizontal distance from nearest parking lot (m)	No data	No data
Horizontal distance from walls, parapets, penthouses (m)	No data	No data
Distance from obstacles, such as buildings (m)	No data	No data
Distance from furnace or incineration flues (m)	No data	No data
Unrestricted air flow	360°	360°
Located in paved area or vegetative ground cover	Vegetative	Vegetative

Monitor Information							
	SO_2	**$PM_{2.5}$**	**WS**	**WD**			
Instrument Manufacturer	TECO	Met-One	RM Young	RM Young			
Model No.	43A	BAM1020	05103VP	05103VP			
AQS Method Code	060	170	Not entered into AQS				
Date sampling began	9/05	3/13/08	-	-			
Frequency	continuous	continuous	continuous	continuous			
Probe material	Glass	-	N/A	N/A			
Residence Time (seconds)	No data	N/A	N/A	N/A			
Distance between co-located monitors	N/A	N/A	N/A	N/A			

Site and Data History	
Date of Occurrence	**Reasons for Invalid or Missing Data; Other site changes**
7/27/05 – 9/12/05	Station was originally established in 1997 and was located on the bottom campus in the baseball field at a lower elevation level of 480m. Station was moved to its present location because the school was planning an expansion of the field.
3/13/08	Met One BAM continuous $PM_{2.5}$ began operating. Met-One E-sampler (nephelometer) is also in operation, mainly for use in determining the Kona vog index. Since this method is not a FEM, it will be discontinued when the $PM_{2.5}$ AQI is on AirNow and the public notification process is completed.

SITE REPRESENTATIVENESS

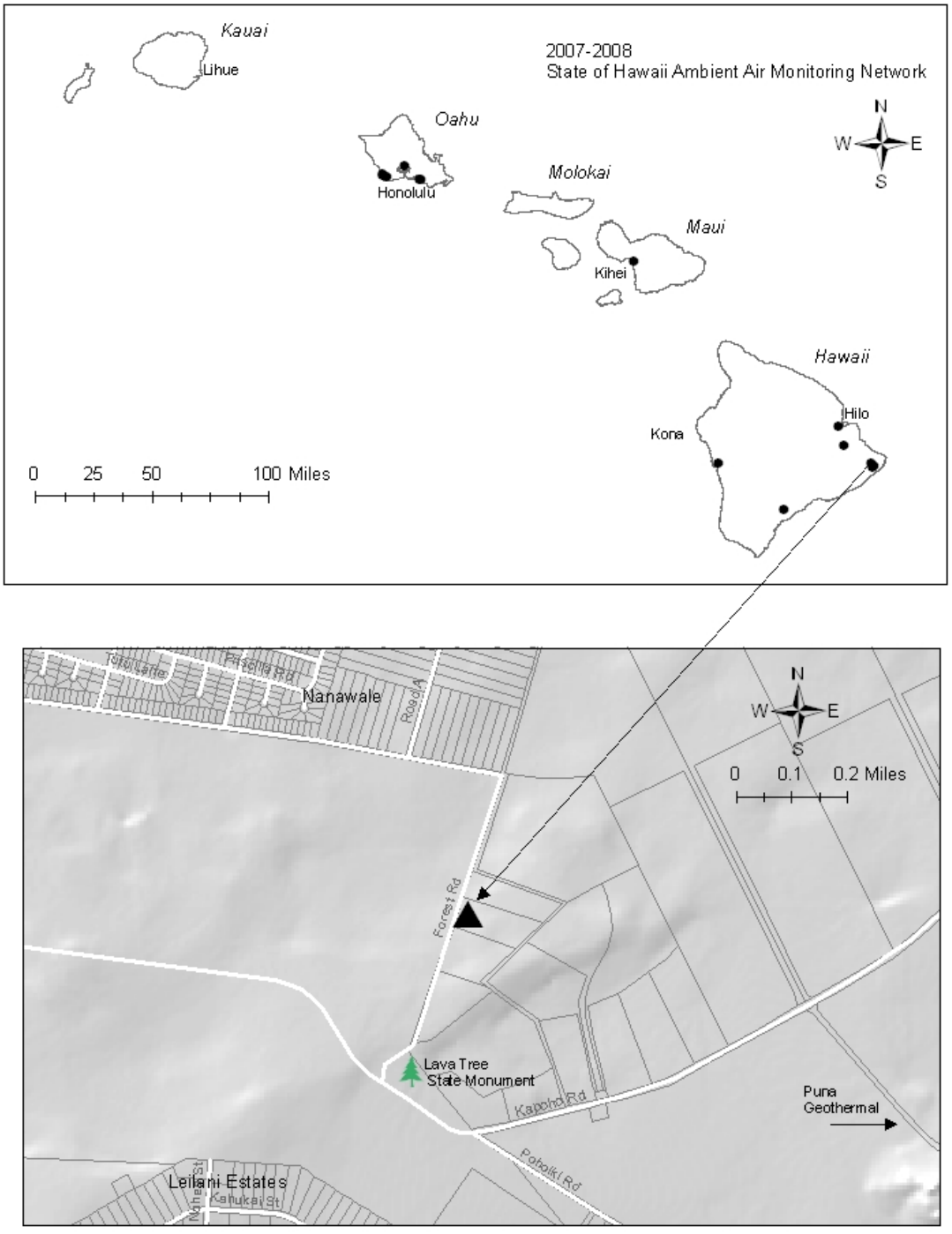
	SO_2	**$PM_{2.5}$**			
Scale	Neighborhood	Neighborhood			
Averaging Times	3-hr; 24-hr; annual	24-hr; annual			
Monitoring Objective	Population exposure	Population exposure			
Suitable for comparison against annual $PM_{2.5}$ NAAQS?	N/A	Yes			

Planned station modifications within the next 18 months:

- EPA has placed the $PM_{2.5}$ AQI for Kona on AirNow. The data from the E-sampler has been used to produce a daily "vog index" for Kona. The vog index and the E-sampler will be discontinued once notification and education about AirNow is provided to the public.

Figure 8

LV7
Lava Tree Station



State of Hawaii Ambient Air Monitoring Network

SITE REPORT:	LV7 Lava Tree

Date of Report:	5/21/2008

SITE INFORMATION

City: Pahoa	**CDP:**	**Census Tract:** 211	**AIRS ID:** None
Address: TMK (3) 1-4-1:44, Puna (Hawaii)			
UTM (NAD 83): North 2155755.6 m East 300257.5 m		**Latitude (NAD 83):** 19° 29' 11.1" N **Longitude:** 154° 54' 11.2" W	**Elevation (MSL):** 193 m
Pollutants: H_2S (SPM)			
Name(s) of nearest intersecting street(s): Pahoa-Pahoiki Rd			
Brief description of site location and landmarks: Located just outside of the State Lava Tree Park, approximately 1.5 miles northwest (upwind) of the Puna Geothermal Venture plant.			
Agency preparing this report: Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
Agency responsible for data collection and site maintenance: Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

GENERAL SITE DESCRIPTION

Mobile Source				
Type	Pahoa-Pohoiki Rd.			
Freeway				
Major Street or Highway				
Local Street or Road	X			
Through Street or Highway				
Traffic Activity				
Distance of roadway from air intake (m)	-			
Direction of roadway from air inlet	N			
Composition of roadway	dirt/gravel			
Number of traffic lanes	1			
Average daily traffic (estimate)	No data			
Average vehicle speed (estimate, mph)	15			
Traffic one way or two	2			
Number of parking lanes	0			
Roadway paved?	No			

Obstructions			
Type	**Size**	**Direction from Site**	**Distance from Site**
None			

Meteorology and Climatology: Source of met data is site WS, WD

DATA QUALITY

Audits	Result
Last PEP Audit: Not applicable	
Last NPAP Audit: Not applicable	
Last Independent (DOH) Audit: 8/8/07	Pass
Last Flow Audit: Not applicable	
Precision/Accuracy reports submitted to AQS:	N/A
Annual data certification submitted to EPA:	N/A

SITE AND MONITOR INFORMATION (LV7 continued)

Probe Siting		
	Gases (H_2S)	
Location	Side of shelter ~6 ft. above ground	
Shelter: height (m) width (m) depth (m)	No data	
Horizontal distance from supporting structure (m)	No data	
Vertical distance above supporting structure (m)	No data	
Height of probe above ground (m)	No data	
Distance from tree(s) (m)	No data	
Horizontal distance from edge of nearest traffic lane (m)	No data	
Horizontal distance from nearest parking lot (m)	No data	
Horizontal distance from walls, parapets, penthouses (m)	No data	
Distance from obstacles, such as buildings (m)	No data	
Distance from furnace or incineration flues (m)	No data	
Unrestricted air flow	360°	
Located in paved area or vegetative ground cover	vegetative	

Monitor Information							
	H_2S	**WS**	**WD**				
Instrument Manufacturer	TECO	RM Young	RM Young				
Model No.	43i	05103VP	05103VP				
AQS Method Code	008	Not entered into AQS					
Date sampling began	8/93	-	-				
Frequency	Continuous	Continuous	Continuous				
Probe material	-	N/A	N/A				
Residence Time (seconds)	No data	N/A	N/A				
Distance between co-located monitors	N/A	N/A	N/A				

Site and Data History	
Date of Occurrence	**Reasons for Invalid or Missing Data; Other site changes**
	None

SITE REPRESENTATIVENESS

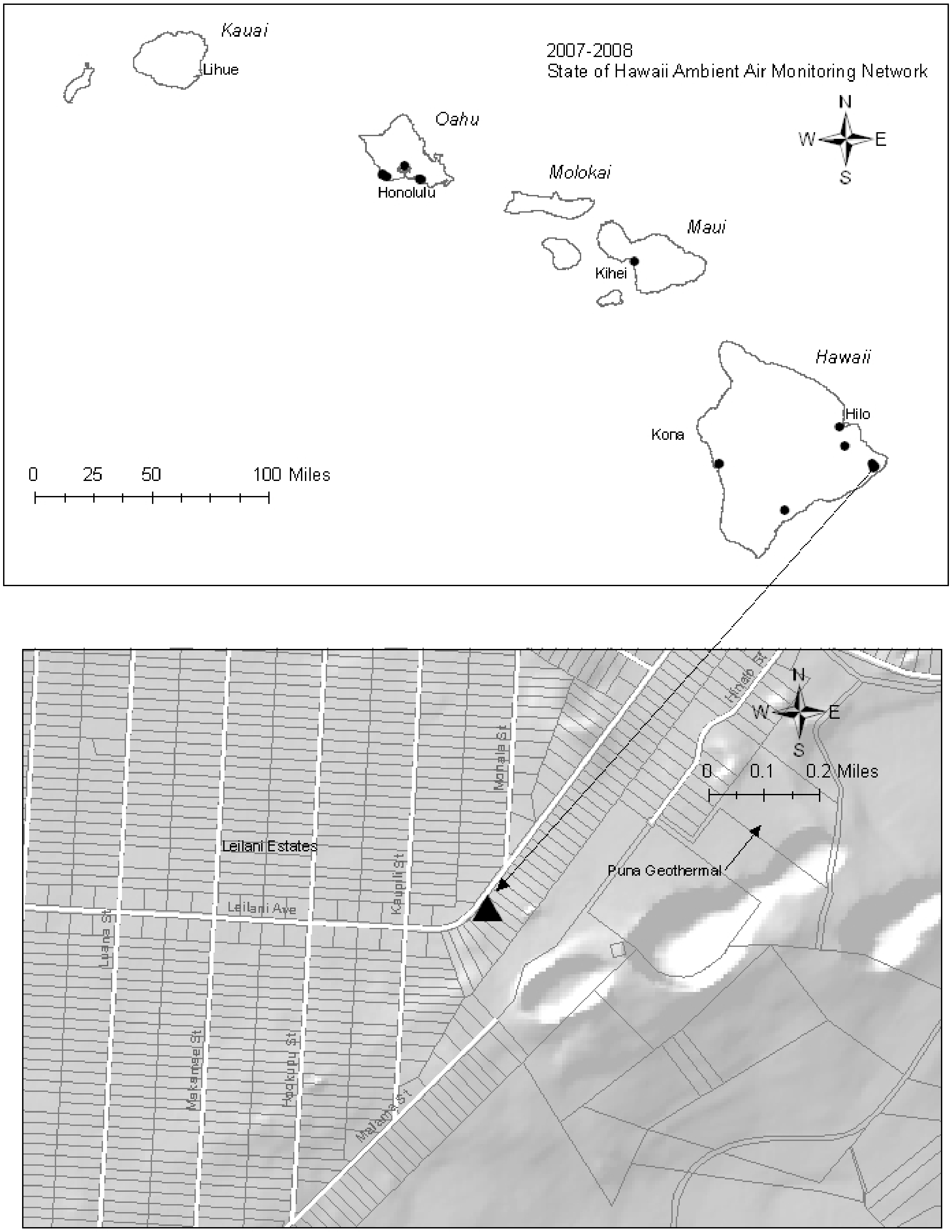
	H_2S				
Scale	Neighborhood				
Averaging Times	1-hr				
Monitoring Objective	Source Impact				
Suitable for comparison against annual $PM_{2.5}$ NAAQS?	N/A				

Planned station modifications within the next 18 months:

- This station was closed on April 30, 2008. The lease for this site is expiring on June 30, 2008 and the state needed to re-direct resources to other stations.

Figure 9

PE10 150012010
Puna E Station



State of Hawaii Ambient Air Monitoring Network

SITE REPORT:	PE10 Puna E

Date of Report:	5/21/2008

SITE INFORMATION

City: Pahoa	**CDP:** Leilani Estates	**Census Tract:** 211	**AIRS ID:** 150012010
Address: TMK (3) 1-3-28:37, Puna (Hawaii)			
UTM (NAD 83): North 2153268.8m East 300693.3 m		**Latitude (NAD 83):** 19° 27' 50.4" N **Longitude:** 154° 53' 55.3" W	**Elevation (MSL):** 208 m
Pollutants: SO_2; H_2S (SPM)			
Name(s) of nearest intersecting street(s): Leilani Blvd.			
Brief description of site location and landmarks: Located in the Leilani Estates residential subdivision in Puna approximately 1.5 miles southwest of the Puna Geothermal Venture power plant.			
Agency preparing this report: Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
Agency responsible for data collection and site maintenance: Department of Health, State laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

GENERAL SITE DESCRIPTION

Mobile Source				
Type	Leilani Blvd.			
Freeway				
Major Street or Highway				
Local Street or Road	X			
Through Street or Highway				
Traffic Activity				
Distance of roadway from air intake (m)	-			
Direction of roadway from air inlet	NW			
Composition of roadway	asphalt			
Number of traffic lanes	2			
Average daily traffic (estimate)	No data			
Average vehicle speed (estimate, mph)	25			
Traffic one way or two	2			
Number of parking lanes	0			
Roadway paved?	Yes			

Obstructions			
Type	**Size**	**Direction from Site**	**Distance from Site**
None			

Meteorology and Climatology: Source of met data is site WS, WD

DATA QUALITY

Audits	Result
Last PEP Audit: Not applicable	
Last NPAP Audit: Not applicable	
Last Independent (DOH) Audit: 8/7/07	Pass
Last Flow Audit: Not applicable	
Precision/Accuracy reports submitted to AQS:	Yes (SO_2)
Annual data certification submitted to EPA:	Report will be submitted prior to the July 1, 2008 deadline

SITE AND MONITOR INFORMATION (PE10 continued)

Probe Siting		
	Gases (SO_2, H_2S)	
Location	Side of shelter ~6 ft. above ground	
Shelter: height (m) width (m) depth (m)	No data	
Horizontal distance from supporting structure (m)	No data	
Vertical distance above supporting structure (m)	No data	
Height of probe above ground (m)	No data	
Distance from tree(s) (m)	No data	
Horizontal distance from edge of nearest traffic lane (m)	No data	
Horizontal distance from nearest parking lot (m)	No data	
Horizontal distance from walls, parapets, penthouses (m)	No data	
Distance from obstacles, such as buildings (m)	No data	
Distance from furnace or incineration flues (m)	No data	
Unrestricted air flow	360°	
Located in paved area or vegetative ground cover	Vegetative	

Monitor Information							
	SO_2	**H_2S**	**WS**	**WD**			
Instrument Manufacturer	TECO	TECO	RM Young	RM Young			
Model No.	43C	43C	05103VP	05103VP			
AQS Method Code	060	008	Not entered into AQS				
Date sampling began	2/05	3/91	-	-			
Frequency	Continuous	Continuous	Continuous	Continuous			
Probe material	Teflon	Teflon	N/A	N/A			
Residence Time (seconds)	No data	No data	N/A	N/A			
Distance between co-located monitors	N/A	N/A	N/A	N/A			

Site and Data History	
Date of Occurrence	**Reasons for Invalid or Missing Data; Other site changes**
	None

SITE REPRESENTATIVENESS

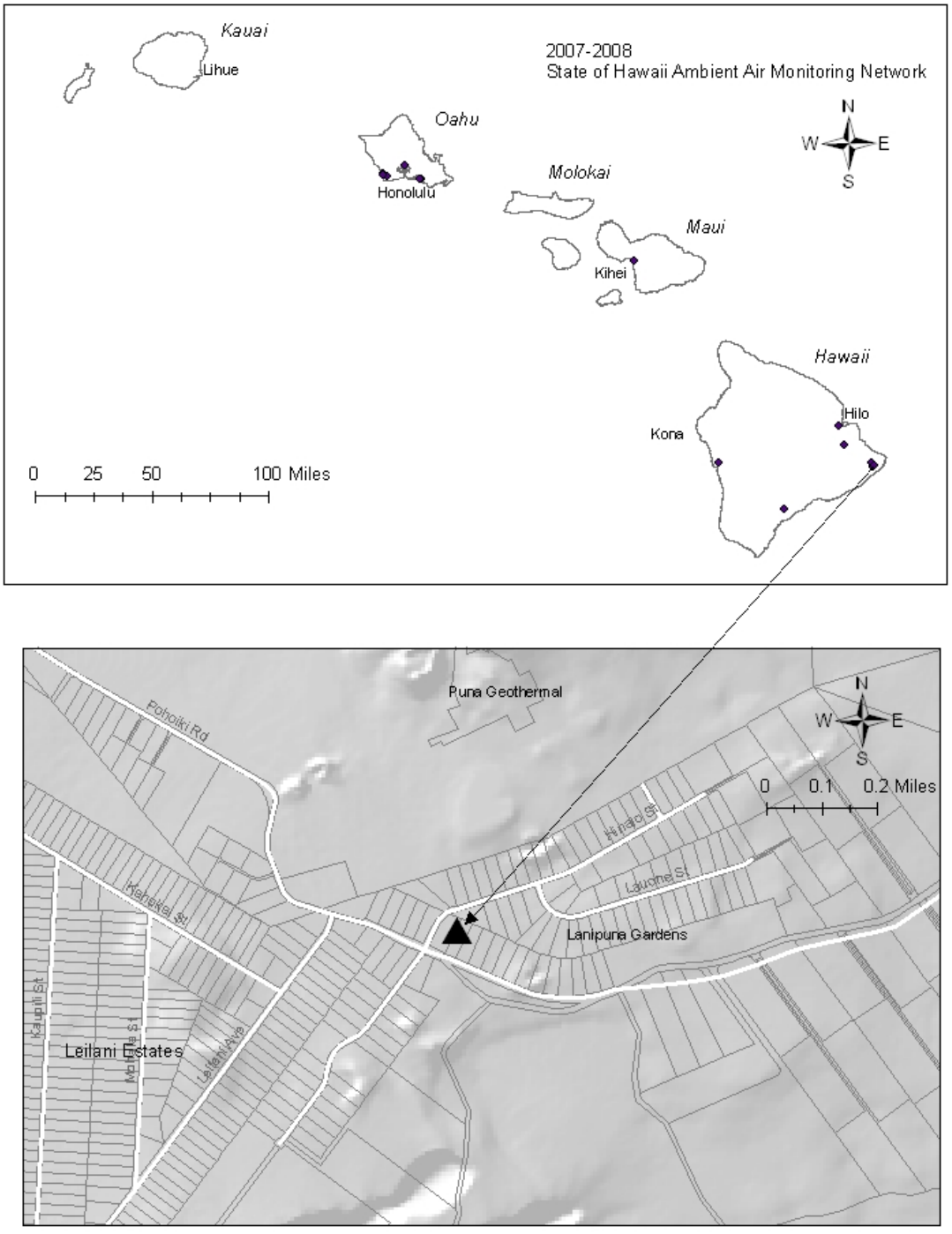
	SO_2	**H_2S**			
Scale	Neighborhood	Neighborhood			
Averaging Times	3-hr; 24-hr; annual	1-hr			
Monitoring Objective	Other	Source Impact			
Suitable for comparison against annual $PM_{2.5}$ NAAQS?	N/A	N/A			

Planned station modifications within the next 18 months:

- No additions or modifications are planned for this station.

Figure 10

PH15
Puna H Station



State of Hawaii Ambient Air Monitoring Network

SITE REPORT:	PH15 Puna H

Date of Report:	5/21/2008

SITE INFORMATION

City: Pahoa	**CDP:**	**Census Tract:** 211	**AIRS ID:** None
Address: TMK (3) 1-3-46:75 Puna (Hawaii)			
UTM (NAD 83): North 2154122 m East 3001714 m		**Latitude (NAD 83):** 19° 28' 18.6" N **Longitude:** 154° 53' 20.5" W	**Elevation (MSL):** No data
Pollutants: H_2S (SPM)			
Name(s) of nearest intersecting street(s): Hinalo St., Pahoiki Rd.			
Brief description of site location and landmarks: Located in the Lanipuna Gardens residential subdivision, less than 1 mile south of the Puna Geothermal Venture plant.			
Agency preparing this report: Department of Health, Environmental Management Division, Clean Air Branch, Monitoring and Analysis Section			
Agency responsible for data collection and site maintenance: Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

GENERAL SITE DESCRIPTION

Mobile Source				
Type	Hinalo St.	Pahoiki Rd.		
Freeway				
Major Street or Highway				
Local Street or Road	X	X		
Through Street or Highway				
Traffic Activity				
Distance of roadway from air intake (m)	-	-		
Direction of roadway from air inlet	N	SW		
Composition of roadway	asphalt	asphalt		
Number of traffic lanes	2	2		
Average daily traffic (estimate)	No data	No data		
Average vehicle speed (estimate, mph)	25	25		
Traffic one way or two	2	2		
Number of parking lanes	0	0		
Roadway paved?	Yes	Yes		

Obstructions			
Type	**Size**	**Direction from Site**	**Distance from Site**
None			

Meteorology and Climatology: Source of met data is site WS, WD

DATA QUALITY

Audits	Result
Last PEP Audit: Not applicable	
Last NPAP Audit: Not applicable	
Last Independent (DOH) Audit: Gas: 8/8/07 Met: 8/8/07 Date corrected:	Pass Wind speed out of specification
Last Flow Audit: Not applicable	
Precision/Accuracy reports submitted to AQS:	N/A
Annual data certification submitted to EPA:	N/A

SITE AND MONITOR INFORMATION (PH15 continued)

Probe Siting		
	Gases (H_2S)	
Location	Side of shelter ~6 ft. above ground	
Shelter: height (m) width (m) depth (m)	No data	
Horizontal distance from supporting structure (m)	No data	
Vertical distance above supporting structure (m)	No data	
Height of probe above ground (m)	No data	
Distance from tree(s) (m)	No data	
Horizontal distance from edge of nearest traffic lane (m)	No data	
Horizontal distance from nearest parking lot (m)	No data	
Horizontal distance from walls, parapets, penthouses (m)	No data	
Distance from obstacles, such as buildings (m)	No data	
Distance from furnace or incineration flues (m)	No data	
Unrestricted air flow	360°	
Located in paved area or vegetative ground cover	Vegetative	

Monitor Information							
	H_2S	**WS**	**WD**				
Instrument Manufacturer	TECO	RM Young	RM Young				
Model No.	43C	05103VP	05103VP				
AQS Method Code	008	Not entered into AQS					
Date sampling began	11/02	-	-				
Frequency	Continuous	Continuous	Continuous				
Probe material	Teflon	N/A	N/A				
Residence Time (seconds)	No data	N/A	N/A				
Distance between co-located monitors	N/A	N/A	N/A				

Site and Data History	
Date of Occurrence	**Reasons for Invalid or Missing Data; Other site changes**
	None

SITE REPRESENTATIVENESS

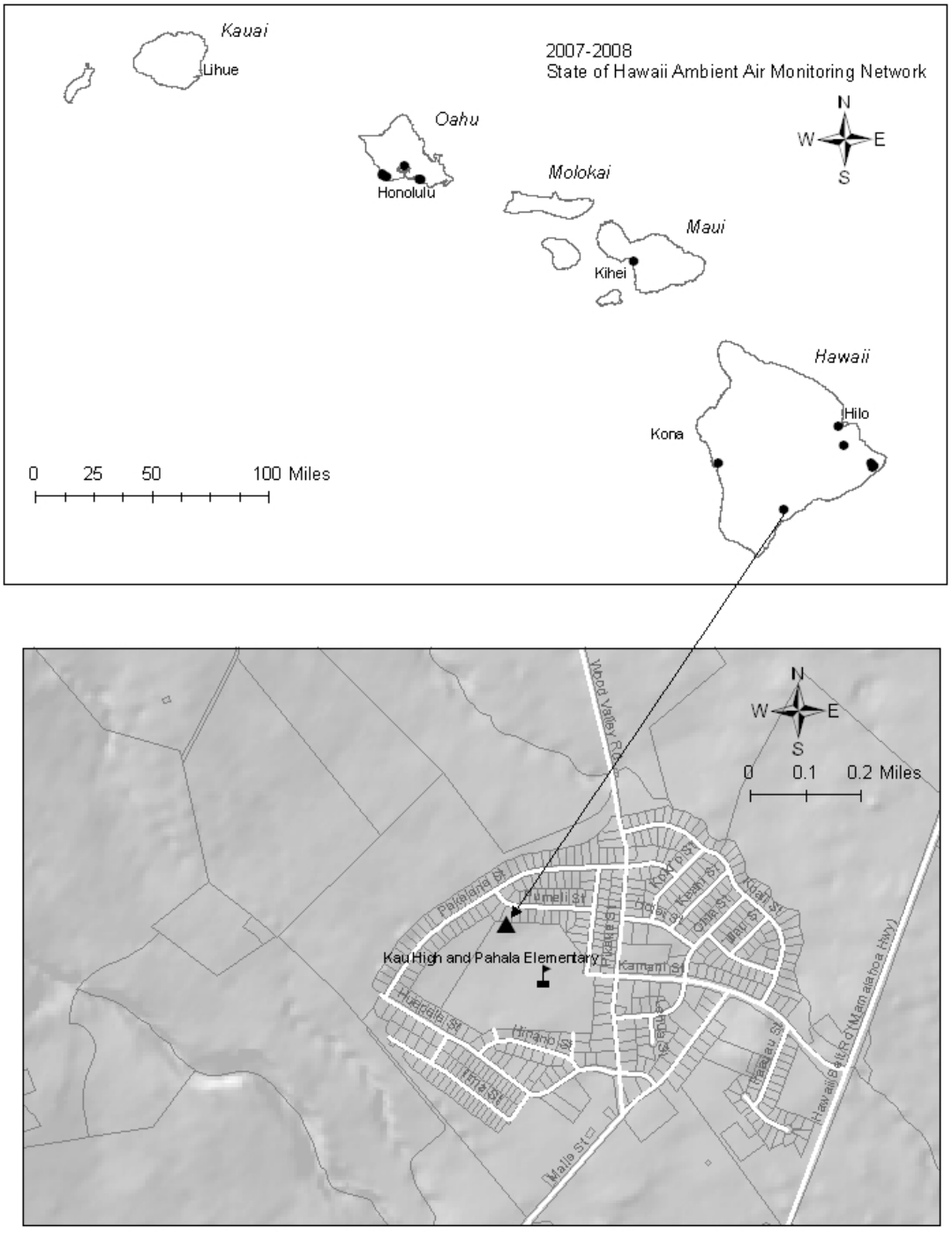
	H_2S				
Scale	Neighborhood				
Averaging Times	1-hr				
Monitoring Objective	Source Impact				
Suitable for comparison against annual $PM_{2.5}$ NAAQS?	N/A				

Planned station modifications within the next 18 months:

- No additions or modifications are planned for this station.

Figure 14

PA16 150012016
Pahala Station



State of Hawaii Ambient Air Monitoring Network

SITE REPORT:	PA16 Pahala

Date of Report:	5/21/2008

SITE INFORMATION

City: Pahala	**CDP:** Pahala	**Census Tract:** 212	**AIRS ID:** 150012016
Address: 96-3150 Pikake St., Pahala, HI 96777			
UTM (NAD 83): Zone 5 281730.63 E 2125246.24 N		**Latitude (NAD 83):** 19° 12' 14.04" N **Longitude:** 155° 28	**Elevation (MSL):**
Pollutants: SO_2 (SPM); $PM_{2.5}$ (SPM)			
Name(s) of nearest intersecting street(s): Puahala, Pumeli			
Brief description of site location and landmarks: This station is located on the grounds of the Ka'u High and Pahala Elementary School.			
Agency preparing this report: Department of Health, Environmental Management Division, Clean Air Branch, Monitoring Section			
Agency responsible for data collection and site maintenance: Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

GENERAL SITE DESCRIPTION

Mobile Source				
Type	Puahala	Pumeli		
Freeway				
Major Street or Highway				
Local Street or Road	X	X		
Through Street or Highway				
Traffic Activity				
Distance of roadway from air intake (m)	740 ft	200 ft		
Direction of roadway from air inlet	East	North		
Composition of roadway	Asphalt	Asphalt		
Number of traffic lanes	2	2		
Average daily traffic (estimate)	No data	No data		
Average vehicle speed (estimate, mph)	25 mph	25 mph		
Traffic one way or two	2	2		
Number of parking lanes	none	none		
Roadway paved?	yes	yes		

Obstructions			
Type	**Size**	**Direction from Site**	**Distance from Site**
None			

Meteorology and Climatology: Source of met data is site WS, WD

DATA QUALITY

Audit	Result
Last PEP Audit:	
Last NPAP Audit:	
Last Independent (DOH) Audit: 8/9/07	Pass
Last Flow Audit:	

SITE AND MONITOR INFORMATION (PA16 continued)

Probe Siting		
	Gases (SO_2)	**PM**
Location	Top of shelter	Top of shelter
Shelter: height (m) width (m) depth (m)	No data	No data
Horizontal distance from supporting structure (m)	No data	No data
Vertical distance above supporting structure (m)	No data	No data
Height of probe above ground (m)	No data	No data
Distance from tree(s) (m)	No data	No data
Horizontal distance from edge of nearest traffic lane (m)	No data	No data
Horizontal distance from nearest parking lot (m)	No data	No data
Horizontal distance from walls, parapets, penthouses (m)	No data	No data
Distance from obstacles, such as buildings (m)	No data	No data
Distance from furnace or incineration flues (m)	Not applicable	Not applicable
Unrestricted air flow	360°	360°
Located in paved area or vegetative ground cover	Vegetative	Vegetative

Monitor Information							
	SO_2	**$PM_{2.5}$**	**WS**	**WD**			
Instrument Manufacturer	TECO	Met One	RM Young	RM Young			
Model No.	43I	BAM1020	05103VP	05103VP			
AQS Method Code	060	170					
Date sampling began	8/10/07	4/1/08					
Frequency	Continuous	Continuous	Continuous	Continuous			
Probe material	Glass	N/A	N/A	N/A			
Residence Time (seconds)		N/A	N/A	N/A			
Distance between co-located monitors	N/A	N/A	N/A	N/A			

Site and Data History	
Date of Occurrence	**Reasons for Invalid or Missing Data; Other site changes**
5/2/08 - 5/6/08	Station down; computer crashed

SITE REPRESENTATIVENESS

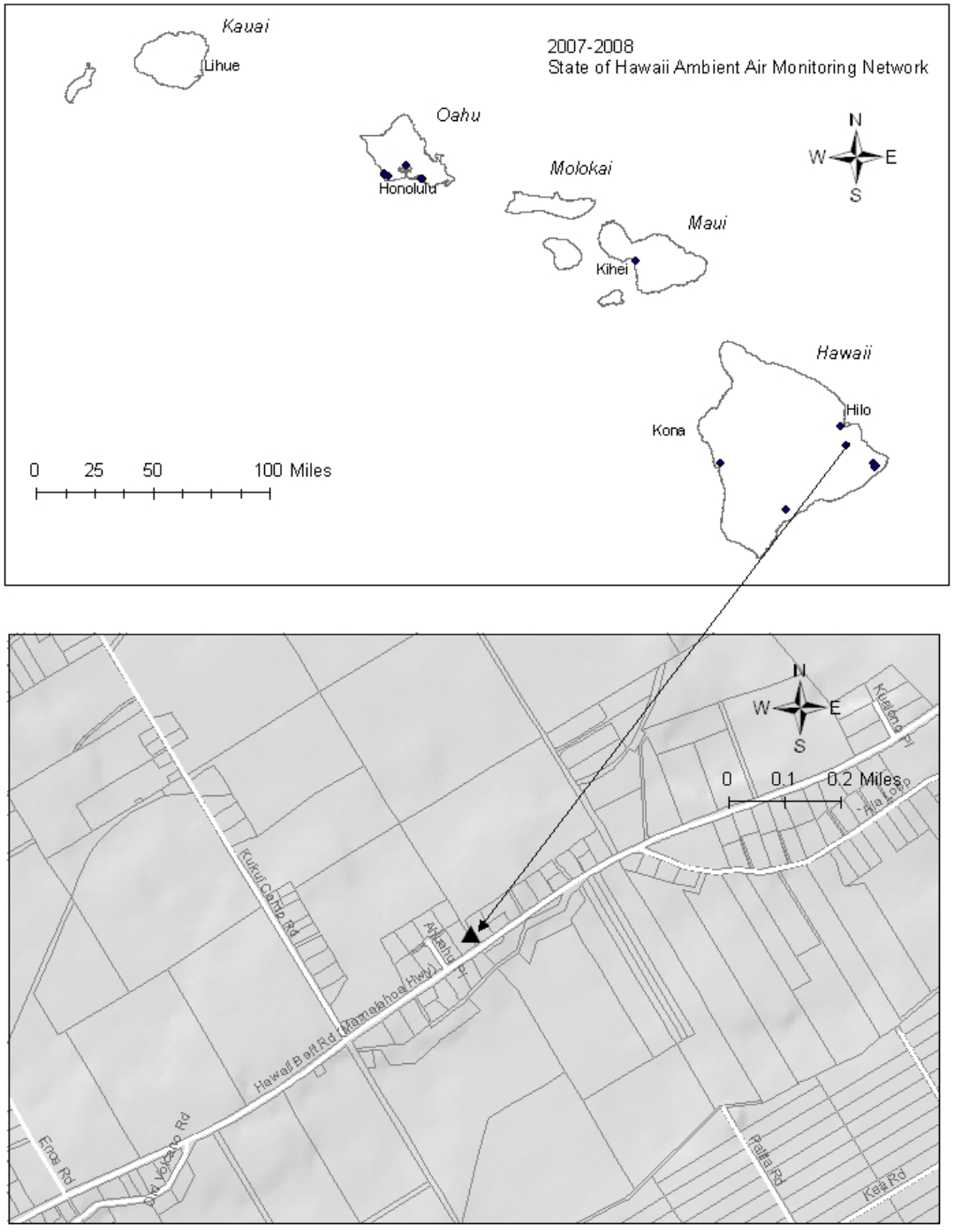
	SO_2	**$PM_{2.5}$**			
Scale	Neighborhood	Neighborhood			
Averaging Times	3-hr;24-hr; annual	24-hr; annual			
Monitoring Objective	Population exposure	Population exposure			
Suitable for comparison against annual $PM_{2.5}$ NAAQS?	N/A	Yes			

Planned station modifications within the next 18 months:

- No additions or modifications are planned for this station.

Figure 15

MV17 150012017
Mountain View Station



State of Hawaii Ambient Air Monitoring Network

SITE REPORT:	MV17 Mountain View

Date of Report:	5/21/2008

SITE INFORMATION

City: Kurtistown	**CDP:** Kurtistown	**Census Tract:** 210.02	**AIRS ID:** 150012017
Address: 17-860 Volcano Rd., Kurtistown, HI			
UTM (NAD 83): N 2165209.96 m E 239216.33 m		**Latitude (NAD 83):** 19° 34' 11.58 N **Longitude:** 155° 04' 39.84 W	**Elevation (MSL):**
Pollutants: SO_2 (SPM); $PM_{2.5}$ (SPM)			
Name(s) of nearest intersecting street(s): Volcano Rd.			
Brief description of site location and landmarks: Located in the front yard of a private residence in a residential community south of Hilo.			
Agency preparing this report: Department of Health, Environmental Management Division, Clean Air Branch, Monitoring Section			
Agency responsible for data collection and site maintenance: Department of Health, State Laboratories Division, Environmental Health Analytical Service Branch, Air Surveillance and Analysis Section			

GENERAL SITE DESCRIPTION

Mobile Source				
Type	Volcano Rd.			
Freeway				
Major Street or Highway	X			
Local Street or Road				
Through Street or Highway				
Traffic Activity				
Distance of roadway from air intake (m)	No data			
Direction of roadway from air inlet	No data			
Composition of roadway	Asphalt			
Number of traffic lanes	2			
Average daily traffic (estimate)	No data			
Average vehicle speed (estimate, mph)	40 mph			
Traffic one way or two	2			
Number of parking lanes	none			
Roadway paved?	yes			

Obstructions			
Type	**Size**	**Direction from Site**	**Distance from Site**
None			

Meteorology and Climatology: Source of met data is site WS, WD

DATA QUALITY

Audit	Result
Last PEP Audit:	
Last NPAP Audit:	
Last Independent (DOH) Audit:	Not yet audited
Last Flow Audit:	

SITE AND MONITOR INFORMATION (MV17 continued)

Probe Siting		
	Gases (SO_2)	**PM**
Location	Top of shelter	Top of shelter
Shelter: height (m) width (m) depth (m)	No data	No data
Horizontal distance from supporting structure (m)	No data	No data
Vertical distance above supporting structure (m)	No data	No data
Height of probe above ground (m)	No data	No data
Distance from tree(s) (m)	No data	No data
Horizontal distance from edge of nearest traffic lane (m)	No data	No data
Horizontal distance from nearest parking lot (m)	No data	No data
Horizontal distance from walls, parapets, penthouses (m)	No data	No data
Distance from obstacles, such as buildings (m)	No data	No data
Distance from furnace or incineration flues (m)	No data	No data
Unrestricted air flow	360°	360°
Located in paved area or vegetative ground cover	Gravel	Gravel

Monitor Information							
	SO_2	**$PM_{2.5}$**	**WS**	**WD**			
Instrument Manufacturer	TECO	Met One	RM Young	RM Young			
Model No.	43A	BAM1020	05103VP	05103VP			
AQS Method Code	060	170					
Date sampling began	3/95	4/11/08					
Frequency	Continuous	Continuous	Continuous	Continuous			
Probe material	Glass	N/A	N/A	N/A			
Residence Time (seconds)		N/A	N/A	N/A			
Distance between co-located monitors	N/A	N/A	N/A	N/A			

Site and Data History	
Date of Occurrence	**Reasons for Invalid or Missing Data; Other site changes**

SITE REPRESENTATIVENESS

	SO_2	**$PM_{2.5}$**			
Scale	Neighborhood	Neighborhood			
Averaging Times	3-hr;24-hr; annual	24-hr; annual			
Monitoring Objective	Population exposure	Population exposure			
Suitable for comparison against annual $PM_{2.5}$ NAAQS?	N/A	Yes			

Planned station modifications within the next 18 months:

- No changes or modifications are planned for this station.